European University Institute
Department of Law

MORE INFORMATION -- BETTER ENVIRONMENT?

A Study in International Law on Duties to Share and Rights to Access Environmental Information

Nina Nordström

Thesis submitted with a view to obtaining the
degree of Doctor of Laws of the European University Institute

Florence, October 2002

MORE INFORMATION - BETTER ENVIRONMENT?

A Study in International Law on Duties to Share and Rights to Access Environmental Information

Nina Nordström

Thesis submitted with a view to obtaining the degree of Doctor of Laws of the European University Institute

Florence, 2002

Members of the Examining Board:
Professor **Philip Alston,** (supervisor) European University Institute/New York University
Professor **Laurence Boisson de Chazournes,** Université de Genève
Professor **Christian Joerges,** European University Institute/Universität Bremen
Dr. **Allan Rosas** (co-supervisor), Judge, European Court of Justice

ACRONYMS

APELL	Awareness and Preparedness for Emergencies at Local Level, (UNEP)
CBD	Convention on Biological Diversity, 1992
CBSS	Council of the Baltic Sea States
CRAMRA	Convention on the Regulation of Antarctic Mineral Resource Activities, 1988
CSCE	Conference on Security and Co-operation in Europe
EBRD	European Bank for Reconstruction and Development
ECE	United Nations Economic Commission for Europe
EEA	European Environment Agency
EMAS	Eco-Management and Audit Scheme (EU)
EMEP	Evaluation and Monitoring of Environmental Pollution (ECE)
ENMOD	Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, 1977
EPA	United States Environmental Protection Agency
EPCRA	Emergency Planning and Community Right to Know Act, 1986 (U.S.)
EPR	Programme for Emergency Preparedness and Response (WHO)
ERS	Emergency Response System (IAEA)
EU	European Union
FAO	United Nations Food and Agriculture Organization
FCCC	United Nations Framework Convention for Climate Change
GAOCMAO	Gulf Area Oil Companies Mutual Aid Organization
GAOR	General Assembly Official Records
GEMS	Global Environment Monitoring System (UNEP)
GRID	Global Resource Information Database (UNEP)
IAEA	International Atomic Energy Agency
ICJ	International Court of Justice
ICRC	International Committee of the Red Cross
ICRP	International Commission on Radiological Protection
IDI	Institut de Droit International
IFRC	International Federation of the Red Cross and Red Crescent Societies
IIED	International Institute for Environment and Development
IISD	International Institute for Sustainable Development
ILA	International Law Association
ILC	International Law Commission
ILO	International Labour Organisation
ILM	International Legal Materials
IMCO	Inter-governmental Maritime Consultative Organization
IMO	International Maritime Organization
INC	Intergovernmental Negotiating Committee for a Framework Convention on Climate Change
INES	International Nuclear Events Scale (IAEA)
IRPTC	International Register of Potentially Toxic Chemicals (UNEP)
ISDR	The International Strategy for Disaster Reduction
IUCN	International Union for the Conservation of Nature and Natural Resources
LOSC	United Nations Convention on the Law of the Sea, 1982

LRTAP	Convention on Long-range Transboundary Air Pollution, 1979
MAHB	Major Accidents Hazards Bureau (European Commission)
MARPOL	International Convention for the Prevention of Pollution from Ships, 1973
MARS	Major Accident Reporting System (EU)
NEA	Nuclear Energy Agency (OECD)
NGO	Non-governmental organization
NUSAFE	Nuclear Installations Safety Net (IAEA)
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
OECD	Organization for Economic Co-operation and Development
OJ	Official Journal of the European Communities
OPCW	Organisation for the Prohibition of Chemical Weapons
OPRC	Convention on Oil Pollution Preparedness, Response and Co-operation, 1990.
OSCE	Organization on Security and Co-operation in Europe
PCF	Prototype Carbon Fund (World Bank)
PCIJ	Permanent Court of International Justice
POLREP	Pollution Reporting Form (North Sea Agreement, 1969)
RIAA	Reports of International Arbitral Awards
SCAR	The Scientific Committee on Antarctic Research of the International Council of Scientific Unions
SOLAS	International Convention for the Safety of Life at Sea, 1974
SWCC	Second World Climate Conference
TEU	Treaty on European Union
UKTS	United Kingdom Treaty Series
UNCCD	United Nations Convention to Combat Desertification
UNCED	United Nations Conference on Environment and Development
UNCUEA	United Nations Centre for Urgent Environmental Assistance
UNDRO	United Nations Disaster Relief Co-ordinator
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNHCHR	United Nations High Commissioner for Human Rights
UNICEF	United Nations Children's Fund
UNITAR	United Nations Institute for Training and Research
UNSCEAR	United Nations Scientific Committee on the Effects of Atomic Radiation
UNTS	United Nations Treaty Series
USC	United States Code
WB	World Bank
WCED	World Commission on Environment and Development
WHO	World Health Organization
WIPO	World Intellectual Property Organization
WMO	World Meteorological Organization

1. INTRODUCTION

1.1. International Law and the Environment

1.1.1. The Evolution of Environmental Information

Environmental information is everywhere around us: on milk-cartons and detergents, in newspapers and scientific journals, on television and internet bulletins. Most of the information comes from private interest and initiative, and some is required by national legislation or regulation. Yet another source of environmental information is provided by states for the benefit of other states as part of their efforts to cooperate in global or regional environmental protection. States have, mainly through environmental treaties, created various systems of information exchange to notify each other of accidents and potential risks and to supervise each other's environmental deeds and omissions. Although still fully in use, most – though not all - of these methods of sharing information represent the "past" in that they perpetuate an *ex post facto*-approach to environmental problems, and this notwithstanding the availability of advanced information and surveillance technology, and a more general trend towards precaution.

Information arrangements in international environmental law have hitherto largely been overlooked, being either only very briefly discussed, or even dismissed altogether as uninteresting, although they are central at least in terms of abundance. At a guess, the reasons underlying such quick dismissals are probably related to a general perception of the vacuous nature of the arrangements. This attitude has been unfortunate, because – even if such an assessment would be justified- it fails not only to consider the "power" of and demand for information and knowledge, especially in the internet age, but it also perceives frequency as nonsense rather than a noteworthy pattern or structural element of the whole of international environmental law, or even a reflection of the state of international law at large. The first aim of this study is therefore to challenge that dismissal by tracing the evolution and understanding the possible functions of inter-state environmental information as it is manifested in public international law today.

But a new era may be evolving both temporally and materially as the focus of legal development – at least in the Liberal West - is put on the rights of individuals to access environmental information. This study will therefore, also, discuss the potential merits and problems alike of developing a right to environmental information, and its meaning for international environmental law. Rights are precisely *human* rights, not nature's, and they may just lead to a continuing preference for procedure over substantive norm-development that earlier inter-state information schemes have involved. Interesting questions of legitimacy also follow if openness leads to public participation in environmental decision-making, be it national or international. The development from state-to-state information exchanges to individual access to information seems to be part of a larger societal trend towards more openness, one that involves pressure on states and other actors to more immediate and voluntary openness outside of all legal arrangements. The role of international law is intriguing however, because it may still have some role (this study will discuss whether these are modest or considerable) in such a process, and some meaning for environmental protection, even in view of the many complex and contradictory considerations presented by environmental degradation and sustainable development. This could come to mean that openness as it is now developing in international law can also be a vehicle for a fundamental conceptual shift towards better environmental protection, but it is a prospect whose outcome may be fraught with the risk of bitter disappointment, in terms of wisdom, farsightedness and sense of responsibility – also of individuals.

When the global environmental debate took off seriously both in academia and among the public in the late 1960s,[1] that debate was itself dependent on general access to new and relevant information on the environment. The debate and ensuing actions between states led to the development of a novel area of public international law: "international environmental law" [2]- an indication of a perception of some uniqueness and coherence. This new legal area started to show an impressive record of both norm-creation and

---

[1] Pictures of the Earth taken from space made a great impact on the 1960s television viewing public all over the world. Seminal for the ecology debate was Carson, R. 1962. See also 'A Blueprint for Survival', *The Ecologist*, 1972. The early ecology debate has later been discussed esp. in philosophy - and ethics - related literature, but also in historical studies, see e.g. Ponting, C., 1992.

[2] Compare e.g. Birnie, P. & A. Boyle, 1992/2002 with Sands, P., 1993, pp. xv-xxvi for references to international law relating to the environment and international environmental law, respectively. On this distinction, see further Kuokkanen, T., 2000, p. vii *et seq.*

institutional development,[3] and it was this legal surrounding, this modern spirit of progress, that initially fostered norms on openness and information. There were some international environmental treaties and policy considerations well before the ecological and scarcity[4] debates of the 1960s and 1970s respectively, but public discussions had not reached the same magnitude and were mostly the domain of smaller groups, well exemplified by the early philanthropic efforts of regulating, and later preventing, trade in trophies.[5] Legal practice relating to exchange of information between states had not explicitly dealt with environmental information, but, as in the *Corfu Channel* case, was concerned with other classical areas of public international law.[6] But from the 1970s on, besides scarcity, the pollution of air and watercourses and other media, a renewed interest in overpopulation, and a new sense of the inherent value of nature for its own sake - even rights of nature[7] - became topical, as did the issue of the limits, ecological and other, of endless economic

---

[3] See e.g. Lyster, S., 1985; Hurrell, A. & B. Kingsbury, 1991. Here the aim is to use "organization" for material entities with physically existing seats, personnel, budgets etc., such as the WTO or various secretariats, expert committees and so forth set up as bodies under specific treaties. The term "institutional" is used either in the everyday sense of an organizational structure's internal modes of functioning, working habits, procedural rules and so forth or in the more abstract sense of a social construct, such as the global economy. On the distinction between the concepts of "organization" and "institution", see, e.g., Young, O., 1989, chapter 2.

[4] The ecological debate was strongly fuelled by the 1973 world oil crisis, resulting, *inter alia*, from the OPEC turning off oil supply in response to the Arab-Israeli conflict, leading to prices increasing radically. This led to a worldwide discussion about scarcity, a "new" phenomenon argued to be a result of ever-growing consumption by industry of various minerals and other natural resources. The resulting media coverage on resource scarcity, although questioned by some, such as Maddock, 1974, caught on strongly among politicians. With some hindsight, the predicted ecological "doomsday" due at the end of the century has not come about, as its prophets neglected to consider at least the impact of changes in patterns of consumption and the ingenuity of people in situations of scarcity. Interestingly enough, the 1973 oil crisis led to great exploration activity and the consequent extraction of oil from sources earlier considered too laborious or expensive. The idea of scarcity was overcome, later also for minerals other than oil. However, ecological awareness was raised - at times through exaggeration (see esp. *The Economist*, 20.12.1997, pp. 21-23), - and, slowly, a decade or so later, the realization that lower prices on resources like oil did not contain any social or environmental costs led to a new debate. Generally, see Achterhuis, H., 1993.

[5] As opposed to international law relating to natural resources, see e.g. Higgins, R., 1995, pp. 129-145 and Kuokkanen, T., 2000. On trade in trophies see Ogundere, J.D., 1972, pp. 256-257 and Lyster, S., 1985, p. 239. For an example, see Art. 9 of the Convention Relative to the Preservation of Fauna and Flora in their Natural State, London, 8.11.1933, in force 14.1.1936. See also its predecessor, the Convention for the Preservation of Wild Animals, Birds and Fish in Africa, London, 19.5.1900.

[6] In which the ICJ held that it is "...every State's obligation not to allow knowingly its territory to be used for acts contrary to the rights of other States". *Corfu Channel* case, Judgment of 9 April, 1949, ICJ Reports 1949, p. 22; On ICJ jurisprudence and environmental protection, see Fitzmaurice, M., 1996, pp. 293-315.

[7] The seminal classic on this issue is Stone, C.D., 1972; See also Stone, C.D., 1985.

growth.[8] The 1972 United Nations Conference on the Human Environment in Stockholm[9] has come to be considered as the watershed in the development of international law on the environment. The Stockholm Declaration[10] advanced the legal evolution of inter-state environmental information duties, as did the Rio Declaration,[11] the other classical milestone which resulted from the 1992 UN Conference on Environment and Development (UNCED) at Rio de Janeiro. The latter added some valuable references to access to environmental information. This study considers legal development up until the Spring of 2002, covering particularly the three decades which have passed since the Stockholm Conference. The outcome of the World Summit on Sustainable Development at Johannesburg in August/September 2002 will therefore here be limited to some tentative remarks.

Between the 1972 and 1992 UN Conferences, international law relating to the environment developed with formidable intensity. Hundreds of bilateral and dozens of multilateral, both global and regional, treaties were concluded on diverse subjects ranging from the protection of the air, international rivers and watercourses, regional seas, and single endangered species and responses to nuclear and other accidents, to, as a "second generation", the management of trade in hazardous substances, protection of the ozone layer, and protection of biodiversity.[12] Some treaties, especially in marine pollution and nuclear law, developed rather quickly as a result of catastrophes – and those are very

---

[8] On the Club of Rome and the discussion it initiated, see esp. Meadows, D. *et als.*, 1974; See also Meadows, D., 1992.

[9] The Stockholm Conference faced the enormous task of trying to reconcile the wishes of both developed and developing countries. The fear of the latter was that environmental concerns would be used as arguments against the further economic growth of poor countries, a threat which seemed highly unfair - even a new form of colonialism -, and a topic which has by no means left the global environmental debate, but which is still very much at the heart of it. For the original 1970s to late 1980s debate on "green imperialism", "toxic colonialism" and other notions of new forms of outside dominance, see Dembo, D., 1987, Pambou Tchivounda, G., 1988, p. 710. Cock, J. and Koch, E., 1991, p. 173. Peter, C.M., 1990, p. 64.

[10] The Conference managed to reach consensus on its final - and rather optimistic - document, the United Nations Declaration on the Human Environment, Stockholm, 16.6.1972 (with China present but not participating), U.N. Doc. A/CONF.48/14/Rev. 1, 3 (1973); U.N. Doc. A/CONF.48/14, 2-65 and Corr. 1 (1972); 11 *ILM* 1416 (1972); See Sohn, L.B., 1973, pp. 423-515.

[11] UNCED, Rio Declaration on Environment and Development, Rio de Janeiro, 13.6.1992, UN Doc. A/CONF.151/26 (vol. I)(1992); 31 *ILM* 874 (1992).

[12] Generally on the development of international treaties and other documents of international environmental law, see e.g. Kiss, A.C., 1976; Lyster, S., 1985; Birnie, P. & A. Boyle, 1992/2002; Kiss, A. & D. Shelton,

relevant for the evolution of environmental information[13] Others, like the United Nations Law of the Sea Convention, were the result of years of deliberation. What never materialized in those years was a single global treaty to deal with general principles elaborating the rights and duties of states with respect to the environment. Besides sector-based treaties, instruments of a soft-law[14] character, like the 1982 World Charter for Nature, proliferated through United Nations organs,[15] regional governmental organizations[16] and various non-governmental bodies and groups of experts.[17] Organizational creation followed this general development, well exemplified by secretariats for the conventions scattered in many countries, and the setting up of the United Nations Environment Programme (UNEP) by a General Assembly Resolution after the Stockholm Conference.[18] In 1992 great expectations and global preparations gathered momentum for the Rio Conference. Nevertheless, political and economic friction was of such magnitude that the material outcome of the Conference was – relative to popular hopes - substantively meagre: two Conventions - the Biodiversity Convention[19] and a

---

1993; ibid., 2000; Nordström, N., E. Pirjatanniemi, A. Rosas *et al*, 1994; Sands, P., 1995; and on the developmental process, see esp. Kuokkanen, T., 2000.

[13] E.g. the 1969 *Torrey Canyon* and the 1986 Chernobyl accidents respectively played roles in the negotiation of some marine pollution and nuclear accident related treaties: the International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Damage, Brussels, 29.11.1969, in force 6.5.1975; Protocol Relating to Intervention on the High Seas in Cases of Marine Pollution by Substances Other than Oil, London, 2.11.1973, in force 30.3.1983; Convention on Early Notification of a Nuclear Accident, Vienna, 26.9.1986, in force 27.10.1986; Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, Vienna, 26.9.1986, in force 26.2.1987.

[14] Literature on the role of soft law in international law, as well as environmental law, is extensive. See e.g. Hillenberg, H., 1999; and see several contributions in Shelton, D., 2000; Birnie, P. & A. Boyle, 2002, pp. 24-27.

[15] E.g., UN GA, World Charter for Nature, Resolution 37/7, 28.10.1982, 37 GAOR, Supp. No. 15, p.17; UN Doc. A/37/51; *ILM* 455 (1983); UNEP, Governing Council Decision on Draft Principles of Conduct in the Field of the Environment for the Guidance of States in the Conservation and Harmonious Utilization of Natural Resources Shared by Two or More States, 6/14(1978), 33 GAOR, Supp. 25, Annex I, A/33/25(1978).

[16] E.g., European Community, Council Regulation of 7 May 1990 on the Establishment of the European Environment Agency and the European Environment Information and Observation Network, 90/1210/EEC. O.J. L120/1 (1990); Organization for Economic Co-operation and Development, Council Recommendation for the Implementation of a Regime of Equal Right of Access and Non-Discrimination in Relation to Transfrontier Pollution, 17.5.1977, C(77)28(Final).

[17] E.g. various Declarations and Resolutions by the Institut de Droit International, the International Law Association; See also World Commission on Environment and Development (WCED), Experts Group on Environmental Law, *Environmental Protection and Sustainable Development*, 1987.

[18] Institutional and Financial Arrangements for International Environmental Co-operation, GA Res. 2997, 27 UN GAOR Supp. (No. 30), p. 43, UN Doc. A/8730(1972).

[19] United Nations Convention on Biological Diversity, Rio de Janeiro, 5.6.1992, in force 29.12.1993.

framework Convention on Global Climate Change,[20] the non-binding Rio Declaration, Agenda 21,[21] and a statement of Forest Principles.[22] Nothing came of earlier hopes for a broad "Earth Charter",[23] or on issues of population control, and very little materialized in the area of organizational co-ordination and development.[24] The Commission on Sustainable Development (CSD),[25] which is mainly a governmental discussion forum on future policy, was created as a follow-up body to assess national reports under Agenda 21. Apart from the Commission, no global environmental organization was created, as had been hoped for by some,[26] though not all. Of significance was the establishment of the Global Environment Facility (GEF),[27] although in the long run it has yet to achieve its full potential as a financing body. However, given the near universal adoption of the Rio Declaration, and the balancing that led to its adoption by consensus,[28] the outcome of the

---

[20] United Nations Framework Convention on Climate Change, Rio de Janeiro, 4.6.1992, in force 21.3.1994.

[21] UNCED, Agenda 21, Rio de Janeiro, 13.6.1992. UN Doc. A/CONF.151/26 (vols. I, II, III)(1992).

[22] UNCED, Non-legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of all Types of Forests, Rio de Janeiro, 13.6.1992, 31 *ILM* 881 (1992).

[23] A global convention on environmental protection had been envisaged, *inter alia*, by the Brundtland Commission in: World Commission on Environment and Development (WCED), *Our Common Future*, 1987, p. 333; and by its Expert Group which drafted a set of legal principles which then went largely unconsidered by the Rio Conference.

[24] For the mandate of the UNCED, see UN GA Resolution 44/228 of 22 December 1989, and UN GA Resolution 45/211 of 21 December 1990. In fact, the mandate did not even extend beyond the examination by the UNCED of the "feasibility" of elaborating a binding global instrument setting out the rights and obligations of states, thus considerably circumscribing any potential outcome of the Conference.

[25] A functional commission of the UN ECOSOC, 53 member states in 3-year terms; Mandate based on UNG Res. 47/191, 1992, and which does not include assessing whether single actions are in compliance with "sustainable development"; Generally, see http://www.un.org/esa/sustdev/csd.htm, and for documents on the Rio +5 Conference in 1997 and the 10-year follow-up meeting in Johannesburg in 2002. And see *CSD Update*, Newsletter of the Secretariat of the CSD at http://www.un.org/esa/sustdev/csdup.htm; See further Mensah, C., 1996, pp. 21-37; and see Boyle, A., & D. Freestone, 1999, p. 6; and Fox, H. & D. Freestone, 2001. And see World Summit on Sustainable Development, Plan of Implementation, para. 127-132, Johannesburg, September 2002, http://www.johannesburgsummit.org.

[26] See e.g. Palmer, G., 1992, pp. 259-283; And for later calls for one international environmental organization, and its hoped-for characteristics and roles, see Ayling, J., 1997, pp. 243-269.

[27] http://www.gefweb.org; Generally, see Boisson de Chazournes, L., 'Le Fonds...', 1995, pp. 612-632; Sands, P., 1995, pp. 736-741; Sjöberg, H., 1996, pp. 148-162; and esp. Sand, P.H., 1999, pp. 217, 299-311, 343. And see World Summit on Sustainable Development, Plan of Implementation, Section X, Johannesburg, September 2002.

[28] E.g.Handl, G., 2001, p. 31, writes of "... the well-nigh universal endorsement of the fundamental importance of sustainable development"; Also Boyle, A. & D. Freestone, 1999, mention the meaningfulness and weight of the concept due to its global support.

Conference was overall significant for the development of international law on the environment, as shall be discussed below.

Although varied in scope and content, and dependent on various complex social, political, economic and developmental factors for their implementation and further development, this host of international instruments, and subsequent ones, have consolidated some of the central tenets of environmental protection,[29] inclduing the duty to inform and the seeds to rights of access to environmental information. But before considering these, a brief discussion on those legal principles that are related to environmental information and that have developed mostly in the decades after the Stockholm Conference is necessary as a means of introduction to the topic of this study. In particular, there are four principles of "international environmental law" that are of particular relevance in relation to environmental information: prevention, cooperation, precaution and sustainable development. Information is most closely related to cooperation, and both can be tools to achieve prevention or precaution. The last principle, sustainable development, is relevant to this study because it is fundamental to the present understanding of the nature of international "environmental" law, and conceptually related to other anthropocentric developments, particularly the discussion on environmental "rights" which began in the 1990s and continues today.

---

[29] Others, such as the polluter pays principle are perhaps less relevant in relation to environmental information duties. The principle, which is found *i.a.* in the Rio Declaration (Principle 16)), but not in the Stockholm Declaration, is central to the economic ramifications of pollution, see Boyle, A., 1991 b, pp. 363-379. See also e.g. Article 2(2)(b) of the 1992 North East Atlantic Convention. No mention of the polluter pays principle is to be found in the Baltic Convention on the Protection of the Marine Environment of the Baltic Sea Area, Helsinki, 22.3. 1974, in force 3.5.1980. Its 1992 successor, however, mentions the polluter pays principle in Article 3(4). The primarily economic nature of the principle has not prevented references to it as even a "general principle of international environmental law", see Preamble to the International Convention on Oil Pollution Preparedness, Response and Co-operation, London, 30.11.1990, in force 13.5.1995. In essence, different economic instruments are to be used in order for the costs of pollution prevention, control and reduction to be borne by the polluter. In view of the different levels of economic development between countries and regions, it remains doubtful whether the principle's practical application can be universally successful. A case in point is the foreign technical and monetary help received by Russia and Lithuania for the maintenance and improvement of nuclear reactor safety. Recently, some treaties have resorted to qualifying wording such as "the polluter should, *in principle*, bear the cost of pollution", see e.g. Article 3, Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 7.11.1996, not in force. The Protocol is intended to replace the Convention with the same name, done at London, 13.11.1972, in force 30.8.1975. Amended 12.10.1978, in force 11.3.1979; amended 24.9.1980, in force 11.3.1981; amended 3.11.1989, in force 19.5.1990; amended 12.11.1993, in force 20.2.1994.

The most fundamental tenet of international law on the environment, and the one on which for instance information duties rest, is still the duty to prevent, reduce and control environmental harm to the natural environment of another state, global common, or, in an ecosystems approach, of any part of the global environment.[30] According to Birnie and Boyle, "[i]t is beyond serious argument that states are required by international law to take adequate steps to control and regulate sources of serious global environmental pollution or transboundary harm within their territory or subject to their jurisdiction. This is a principle of harm prevention, not merely a basis for reparation after the event..."[31] The legal maxim *sic utere tuo ut alienum non laedas*, an expression of the duty of good neighbourliness,[32] and akin to the principle of abuse of rights,[33] had been accepted as a rule of general international law[34] well before the Stockholm Declaration and numerous consequent

---

[30] Further on the no harm-principle, see e.g., Kiss, A.C., 1976, pp. 57-; Boyle, A., 1985, pp. 353-357; Goldie, L.F.E., 1985, pp. 215-217; Pinto, M.C.W., 1985, p. 39; Sands, P., 1988, pp. 6-22; Ebbesson, J, 1993, pp. 40-41; Nordström, N., E. Pirjatanniemi, A. Rosas *et al*, 1994, p. 21-23; Sands, P., 1995, p. 186-197; Kiss, A. & D Shelton, 2000; Kuokkanen, T., 2000, ch. I; Birnie, P. & A. Boyle, 2002.

[31] Birnie, P. & A. Boyle, 1992, p. 89; and see ICJ judgment in the case of the *Gabcikovo-Nagymaros Project* (Hungary v. Slovakia), *ICJ Reports*, 1997, which in para. 140 mentions that "vigilance and prevention are required...", see further Soljan, L., 1998, p. 210.

[32] The *sic utere* principle is notorious for its generality; on its origin and domestic v. international character, see Lammers, J., 1984, pp. 570-571. According to one writer it is "evident that the maxim can provide only little guidance for the verification of specific state obligations", Hakapää, K., 1981, p. 137; The notion of good neighbourliness, equally vague, is by some connected to substantive harm and the notion of equitable use, see e.g. Lammers, J., 1984, p., 546. Further see Handl, G., 1978-79, p. 61; Equitable use has been developed in international law mainly within the areas of maritime delimitation and the use of international watercourses. see, e.g., *North Sea Continental Shelf* cases, *ICJ Reports*, 1969, p. 46; *Tunisia-Libya Continental Shelf* case, *ICJ Reports*, 1982, p. 59; *Gulf of Maine* case, ICJ *Reports*, 1984, p. 312; Helsinki Rules of the Uses of the Waters of International Rivers, ILA, *Report of the Fifty-Second Conference*, held at Helsinki, 1966, pp. 485-532, Article IV; Generally, see Sands, P., 1995, pp. 197-198.

[33] On its relationship to the *sic utere* maxim, see Oppenheim, L.F.L, ed. H. Lauterpacht, 1955, pp. 346-347; For a further definition of the concept see Iluyomade, B.O., 1975, p. 48; And see further Kuokkanen, T., 2000, pp. 46-54. Abuse of rights may further connect to the notion of unjust enrichment, see *Fisheries Jurisdiction (United Kingdom v. Iceland)* and *Fisheries Jurisdiction (Federal Republic of Germany v. Iceland)* cases, ICJ Reports, 1974, see p. 30. On risk-creation as a form of expropriation, see Goldie, L.F.E., 1985, pp. 212-213.

[34] The Supreme Court of the United States first made reference to this principle in the *Georgia vs. Tennessee Copper Co.* case, 206 U.S. 230 (1906), and it was restated in the often cited *Trail Smelter* case between the United States and Canada, where the Arbitral Tribunal held that: "...under the principles of international law, as well as of the law of the United States, no State has the right to use or permit the use of its territory in such a manner as to cause injury by fumes on or to the territory of another or the properties or persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence". *Trail Smelter* arbitration, 1938, 1941 (United States of America v. Canada), 3 UNRIAA, 1941, pp. 1938, 1962; See also the *Corfu Channel* case, Judgment of April 9th, 1949, (quoted *supra*) ICJ Reports, 1949, p. 22; See further e.g. Kuokkanen, T., 2000, pp. 55-58; As these and some other landmark cases contained elements which circumscribe their applicability to international environmental law, the duty of prevention was most importantly expressed in the Stockholm Declaration and subsequent treaties.

legally-binding agreements[35] further consolidated it within the context of environmental protection. Despite being of a soft-law character the Declaration, and especially its Principle 21,[36] which has been widely reiterated in subsequent treaties, has nonetheless become part of general international law:[37]

> States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.[38]

The Principle is two-fold: on the one hand it reaffirms the concept of transfrontier pollution prevention; on the other hand it refers to the sovereign right of states to exploit their resources. The principle of pollution prevention is widely considered to be an integral part of the concept of state sovereignty and the corresponding concept of territorial integrity.[39] There is a built-in tension in Principle 21, although some would see it as only an element of balancing of interests rather than a detraction from the legal force of the principle of responsibility.[40]

Principle 21 does not mention any threshold for environmental harm, an issue that in subsequent decades became widely discussed, and which has not been satisfactorily

---

[35] E.g. Articles 192-194 of the United Nations Convention on the Law of the Sea, Montego Bay, 10.12 1982, in force 16.11 1994.

[36] For an argument against the legally binding nature of Principle 21, see Knox, J.H., 2002, p. 292.

[37] See esp. ICJ *Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons*, *ICJ Reports* (1996), para. 29 (see Judgment para. 53 and 112): "the environment is not an abstraction but represents the living space, the quality of life and the very health of human beings, including generations unborn. The existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control is now part of the corpus of international law relating to the environment"; *Cf.* esp. *Case Concerning the Gabcikovo-Nagymaros Dam* (1997), *ICJ Reports* 7; References in literature to the binding character of the principle are vast, see e.g. Kiss, A-C, 1992, p. 12; Pallemaerts, M., 1988, pp. 205-206; Palmer, G., 1992, pp. 268; Birnie, P. & A. Boyle, 1992, pp. 90-91 and ibid. 2002; Pallemaerts, M., 1993, p. 2; See also Sands, P., 1995, pp. 194-197; Soljan, L., 1998, p. 210; but see Koskenniemi, M., 1990, pp. 309-331.

[38] Stockholm Declaration, Principle 21.

[39] See e.g., Lammers, J.G., 1984, pp. 557-563; Sands, P., 1989, p. 404; Sands, P., 1995, pp. 188-190; and see Kuokkanen, T., 2000, pp. 6-20.

[40] See e.g. Pallemaerts, M., 1988, p. 206.

resolved on the level of general international law.[41] Perhaps the most convincing argument is that the threshold should be understood as a standard of due care or due diligence[42] - as manifested for instance by legal and administrative controls by states -, although there are expressions in treaty law of more stringent standards, especially in relation to ultra-hazardous activities.[43]

Principle 21 includes damage not only to states' environments but also to the global commons, a step that was crucial to the development of the area of law towards a more inclusive, global approach.[44] Earlier concepts such as obligations *erga omnes*[45] or the common heritage of mankind,[46] along with the later and weaker "common concern of

---

[41] *Cf.* the *Trail Smelter* case, which mentions "when the case is of serious consequence and the injury is established by clear and convincing evidence"; The ILC first referred to "appreciable injury", see International Law Commission, 1990. Special Rapporteur Julio Barboza; *Sixth Report on International Liability for Injurious Consequences Arising Out of Acts Not Prohibited by International Law* (cited as ILC: Barboza, *Sixth Report*), A/CN.4/428 and A/CN.4/428/Add.1; Later, the ILC has referred to the "risk of causing significant transboundary harm", see *Report of the International Law Commission on the Work of Its Fiftieth Session,* 1998, GAOR A/53/10, p. 18; The ECE Watercourses Convention mentions "any significant adverse effect on the environment", Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Helsinki, 17.3 1992, entry into force 6.10.1996, Article 1(2); Generally on harm in international law and in relation to ILC work, see Jacqmotte, B., 1998 and Urstadt, J., 1998.

[42] See e.g. *Report of the International Law Commission on the Work of Its Fiftieth Session,* 1998, GAOR A/53/10, pp. 34-37; But *contra* for an argument in favour of absolute standards, see Vessey, J., 1989, pp. 200-202, who writes relative standards off by saying that they emanate from Stockholm Principle 7 to take "all possible steps" to prevent pollution, p. 202 *et seq.*

[43] A concept used to point out that certain human activities, like nuclear weapons or nuclear power, could contain such elements of risk (low probabilities of harm but enormous consequences if they occur) that they should be subject to stronger legal controls. Generally, Birnie, P. & A. Boyle, 1992, pp. 367-368; but see Brownlie, I., 1990, pp. 475-476; See work of ILC, e.g. reports by the Special Rapporteurs on *International Liability for Injurious Consequences Arising Out of Acts Not Prohibited by International Law* (e.g. R. Quentin Quentin-Baxter, 1982, A/CN.4/360; J. Barboza, 1995, A/CN.4/468), but *cf.* later work by ILC, e.g. *Report of the International Law Commission on the Work of Its Fiftieth Session,* 1998, GAOR A/53/10.

[44] Also, "environment" as opposed to damage to health and property only; For earlier legal practice, see *Nuclear Tests (Australia v. France), Judgment of 20th December 1974,* ICJ Reports 1974, p. 253; *Nuclear Tests (New Zealand v. France), Judgment of 20th December 1994,* ICJ Reports 1974, p. 457; *Affaire du Lac Lenoux (Espagne v. France),* 1957, XII UNRIAA, p. 281; *Claim for damage Caused by Soviet Cosmos 954,* 18 *ILM* (1978), 902.

[45] On obligations *erga omnes,* see *Barcelona Traction Light and Power Company Limited,* ICJ Reports 1970, p. 3. Further, see Ragazzi, M., 1997.

[46] Applies to the deep sea-bed and the moon. See the 1992 LOSC, Article 136; and the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, New York, 5.12 1979, in force 11.7.1984; Generally see Dupuy, R-J, 1984; Sands, P., 1995, p. 441, 750; Kiss, A. & D. Shelton, 2000; and on common heritage and Antarctica, see Rothwell, D., 2000, p. 613.

humankind"[47] have only marginally served to extend legal concerns to truly global environmental protection. "Inter-national environmental law" is very much a matter between states, although later inclusions of ecosystems approaches and a gradual lessening of solely anthropocentric viewpoints have been a welcome development. The later inclusion of developmental concerns through the Rio Declaration again radically alters this picture, as does *human* rights of access to environmental information, the topic of Chapter 4.

Significantly, the Rio Declaration in Principle 2 reiterates Stockholm Principle 21, adding two words:

> States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental *and developmental* policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.[48] (emphasis added)

What is it that makes the Rio addition of the words "and developmental" so significant? The basic tension, or, if preferred, the fragile balance, seen in Principle 21 between environmental responsibility and national sovereignty remains untouched in Principle 2, but instead a new paradox, equally fundamental, was created by combining environment and development. The new paradox also functions to disturb the "original" balance between responsibility and sovereignty. This fundamental shift is briefly discussed below as it is part of the political and legal "setting" in which norms on environmental information have evolved, and in particular, it is conceptually related to the most recent anthropocentric developments towards individual rights of access to environmental information.

---

[47] See e.g. the Preambles to the Climate Change Convention, and the Biodiversity Convention; Generally, see Sands, P, 1995, p. 218.

[48] Rio Declaration, Principle 2.

1.1.2. The Related Principles and Paradoxes

Thus the concept that crystallizes the outcome of the Rio Conference is sustainable development.[49] Its origins are inseparably linked to earlier recognitions, for instance in the Stockholm Declaration, of the inevitable need to reconcile environmental protection with the developmental needs of Third World countries in particular.[50] Sustainable development was most notably elaborated by the World Commission on Environment and Development (WCED),[51] and consequently established as a concept in international law, politics and economics by the Rio Conference and its five above-mentioned documents. The well-known WCED definition of the concept ("development that meets the needs of the present without compromising the ability of future generations to meet their own needs"), as well as other definitions,[52] leaves much clarity to be wished for; and yet the notion is frequently used[53] and has, in the decade between Rio and Johannesburg, become a central element of international law.[54] Opinions are dramatically divided on the legal strength of the concept,[55] on its applicability to domestic and/or international law, on its substantive

---

[49] Generally in international law see Lang, W., 1995; Beyerlin, U., 1996, pp. 95-12; Boisson de Chazournes, L., 1996, pp. 285-300; Boyle, A. & D. Freestone, 1999; On the EU and sustainable development, see Commission web-site: http://europa.eu.int/comm/environment/law/sustlaw.htm

[50] But see UNGA: Charter of Economic Rights and Duties of States, Resolution 3281 (XXIX) (1974). 29 GAOR, Supp. 31; UNGA: Co-operation in the Field of the Environment concerning Natural Resources Shared by Two or More States, Resolution 3129 (XXVIII)(1973), 13.12 1973, 28 GAOR Supp. 30, p. 48; 13 *ILM* 232 (1974). The efforts in the 1970s to create a New Economic World Order did not to any great extent address problems relating to environmental consequences of development.

[51] The so-called Brundtland Commission: World Commission on Environment and Development (WCED), *Our Common Future*, 1987.

[52] See also UNEP definition in Governing Council Decision 15/2 of May 1989, Annex II, GAOR, 44th Session Suppl. No. 25, UN Doc. A/44/25(1989).

[53] Typically, under a sectoral environmental agreements or regional cooperation arrangements, the issue is dealt with in a working group, framework document, special committee or the like, see e.g. the Arctic Council's Sustainable Development Programme (SDP) and Sustainable Development Working Group (SDWG) started in 1998 and its Sustainable Development Framework Document, 2000, accessible at http://www.arctic-council.org/sdwg.asp

[54] "Sustainable development is a seductively simple concept, basic to human survival and though it cannot yet be said to be a norm of international law", Birnie, P. & Boyle, A., 1992, p. 5, and see pp. 122-124, and *cf.* Boyle, A. & D. Freestone, 1999, pp. 16-17, who make a balancing argument where the concept as such is not to be considered general international law, but where its component parts (EIAs, public participation, integrating environmental and developmental aspects in decision-making, and intra- and inter-generational equity) need be promoted in a process of decision-making that promotes sustainable development.

[55] See Lowe, V., 1999, who makes an interesting argument for the concepts' application and normativity despite it falling short of traditional tests of general international law (representing neither hard law nor soft

components and justiciability, and above all on its repercussions for environmental protection.[56]

Turning first to arguments on the Rio process as a failure for environmental protection, the first question relates to the relationship between environmental responsibility and national sovereignty, the latter of which was earlier in the Stockholm Declaration conditioned on states' own *environmental* policies. However, in one interpretation, "[a]fter Rio, a State's responsibility in the exercise of its sovereign right to exploit its natural resources will no longer be measured first and foremost in terms of its environmental policy obligations, which are now explicitly subordinated to the dictates of its economic development policy."[57] Secondly, the central weakness of the concept lies in its general vagueness. The adjective, "sustainable", should serve to clarify the noun, "development". The verb sustain, from which the adjective derives, means "hold up, bear the weight of, be able to bear (strain, suffering *etc*) without collapse, strengthen, uphold, maintain, ...;"[58] It remains difficult to ascertain whether sustainable development is a moral or a practical concept, or if at all it could combine both these elements. Most writers would agree that the concept's lack of concrete standards also means that it is not directly justiciable, although the argument has been presented that courts can, and should, as was done by the ICJ in the *Gabcikovo-Nagymaros* case, make some use of the concept in their argumentation, and that this will influence the development also of international environmental law.[59] As seen in

---

law), e.g. "fundamentally norm-creating character" (as in the *North Sea Continental Shelf* cases, 1969), state practice, *opinio juris*, or compliance; and see further Separate Opinion of Judge Weeramantry to the ICJ judgment in the *Case Concerning the Gabcikovo-Nagymaros Dam* (Hungary v. Slovakia), *ICJ Reports*, 7, 1997, where he writes that sustainable development combines the "needs of development and the necessity to protect the environment" (and *cf.* Judgment, para. 140) and is "more than a mere concept, but a principle with normative value..." and that it "rests on a basis of worldwide acceptance".

[56] Sentiments range from utter disappointment and disillusionment with the future of "international environmental law" since the introduction of the "challenging" developmental element into it; to some satisfaction with the inclusion of environmental concerns into international economic law; to great contentment with the perceived acknowledgement of developmental concerns and even economic growth as preconditions for environmental protection; Generally, see *Symposium:* 'Environment 2000 – New Issues for a New Century' in 27(4) *Ecology Law Quarterly* 2001.

[57] Pallemaerts, M., 1993, p. 6.

[58] *The Penguin English Dictionary.* Harmondsworth, Penguin Books Ltd., 1982, p. 730.

[59] See *Case Concerning the Gabcikovo-Nagymaros Dam* (1997), *ICJ Reports* 7, esp. para. 140; See further, e.g. on the role of "a state of necessity" as a reason, based on customary international law, for producing (vs. sometimes precluding) wrongfulness, on "grave and imminent peril" as a test for necessity, and on risk, as well as on the role of the case for the development of international law, see Higgins, R., 1999, pp. 104-111; See further Lowe, V., 1999; and Sands, P., 1999, pp. 59-60.

the above-cited WCED definition, the notion of the rights of future generations[60] is often included in attempts to put some flesh on the bones of sustainability. Yet we do not know what the needs of future generations are: the classical dilemmas are that we cannot know if they will be richer or poorer than we are, what their technological capacity will be, what they wish and long for, *etc.* A total conservation of the *status quo* is not only impossible, but may not be what future generations want. They may wish for less (nature, clean air, and so on) than we have now, or they may wish for an amelioration of the present state of the environment. The integration of both environmental and developmental aspects in decision-making has been advanced as the most obvious – and most difficult - requisite for sustainability. And finally, EIAs and public participation have been put forward as elements of sustainable development especially by those arguing for a procedural approach to its realization.[61] This would be the main link between information duties, supervisory methods and access rights to sustainable development, as this study will further discuss.

In the end, the goals of sustainable development remain open to interpretation, debate and political decision-making, if those are encouraged, and especially on the national level.[62] The introduction of sustainable development could perhaps be said to have strengthened the argumentation of some developing countries: there is now a rhetoric which sounds good, but which can be used to mean almost anything. For the same reason of normative

---

[60] Or "inter-generational equity" along with "intra-generational equity"; See e.g. Stockholm Declaration Preamble and Principle 2; Rio Declaration Principle 3 states that "The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations"; See also ICJ Advisory Opinion on the *Legality of the Threat or Use of Nuclear Weapons*, *ICJ Reports* 1996, pp. 241-242; and see Declaration on the Responsibilities of the Present Generations Towards Future Generations, UNESCO General Conference, 12.11 1997; For a seminal work see Brown Weiss, E., 1989; See also Brown Weiss, E., 1990, pp. 198-207 and ibid., 'Environmental Equity...', 1995, pp. 17-33; ibid., 'Opening...', 1999, pp. 338-353; D'Amato, A., 1990, pp. 190-198; Gündling, L., 'Our Responsibility ...', 1990a, pp. 207-212; Conable, B.B., 1990, p. 235; and for practice under the 1987 Philippine Constitution, see the 1993 *Minors Oposa v. Factoran* case, 33 ILM 173 (1994); on the case and recognition of the rights of future generations, see La Viña, A., 1994; Generally, see Sands, P., 1995, pp. 199-200; and further on the relationship between the "emerging customary international environmental law principle" of intergenerational equity and precaution, McIntyre, O., 1998, p. 91; and on the same, see Granet, M-B, 2001, p. 795.

[61] See esp. Boyle, A. & D. Freestone, 1999, p. 17; and *cf.* to Lowe, V., 1999, p. 36: '... seem to be more of a procedural than of a substantive character'.

[62] One writer on the European Commission's web-pages says that "... despite the initial enthusiasm, we have come to realize that the road to sustainability is more difficult than we anticipated. One of the obstacles, among many identified, since the Rio Conference is the lack of a specific methodology for incorporating the criteria of sustainability into the policies of the European Union", http://europa.eu.int/comm/environment/law/sustlaw.htm

vagueness, big industry[63] everywhere embraces the notion as more attractive to business and industry than environmental protection, which might actually imply some duties.[64] This is where the concept of *precaution*, returned to below, is supposed to come in: lack of evidence about future risks is reason for action, not inaction.[65] Where the Stockholm Declaration mentions only "economic and social development",[66] its Rio counterpart actually goes beyond the vagueness of sustainable development in laying down, in Principle 12, the need to promote an international economic system which would lead to "economic growth" and sustainable development in all countries. This is clearly reinforced in the Johannesburg Plan of Implementation, which (in Article 77) speaks of "our common pursuit of growth".

Is there then a need to call a spade a spade, to separate what is environmental law and what is sustainable development law in order to preserve the integrity of at least the former? Or can there be any meaningful integration of these two branches? If the point of departure is non-anthropocentric, as in an ecosystems or other nature-oriented approach, then one might recognize Rio as a legal step backwards, that is, one where the integration of environmental and economic or developmental issues might function to the detriment of the interests of nature itself.[67] Within the (very anthropocentric indeed) logical confines of

---

[63] According to Pallemaerts, a strong critic of the whole Rio process, "[p]olitical leaders from industrial countries, as well as the leaders of transnational business and financial institutions, are no doubt just as delighted as their counterparts in the Southern elites to see the mythology of economic growth restored, not only for Third World countries but for the entire planet. This has been achieved in one fell swoop, and this under the pretext that growth is not actually harmful to the environment but, to the contrary, essential to its very protection", Pallemaerts, M., 1993, p. 16.

[64] At one extreme end of arguments are thus those who first and foremost want to stress developmental needs, many of whom with great consequence only talk about "sustainable development law", as opposed to any "environmental law" and responsibilities; Completely growth-centred rhetoric has of course also not disappeared, see e.g. Beckerman, W., 1992, pp. 481-496. Someone may even argue that in face of the enormous difficulties in finding a meaningful moral *and* practical understanding of sustainability, this growth language has the benefit of being straightforward where, at least, no-one can be fooled by hidden agendas!

[65] Further see e.g. Beckerman, W., 1992, p. 492, who argues that environmental protection must be implemented right now in poor countries, not in relation to potential future problems, such as the effects of global warming. His argument for environmental protection in the developing countries is compelling, but it wholly neglects the precautionary principle, and it supposes that different kinds of environmental efforts cannot be done simultaneously.

[66] Stockholm Declaration, see Principles 8 and 9.

[67] Rio Declaration, Principle 1 reads: "Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature." *Cf.* the Stockholm Declaration and especially the World Charter for Nature, which is clearly more nature oriented.

sustainable development, the answer could be more balanced. One of the main problems in wholesale dismissals of the Rio outcome, or now, in the outcome of the Johannesburg Summit, is that such arguments are reluctant to acknowledge that poverty itself may cause pollution.[68] Growth-induced pollution versus poverty-induced pollution is an inexhaustible theme,[69] not without ideological convictions, and right at the essence of the concept of sustainable development.[70] The Rio Declaration makes this point clear in mentioning "the essential task of eradicating poverty as an indispensable requirement for sustainable development".[71] And indeed a great majority of legal scholars seem willing to give the concept a positive connotation, apart from, in any case, a central role in the development of international ("environmental") law.

According to Lowe, "[n]either development nor environmental protection can be pursued to its logical conclusion. Neither, alone, is a sustainable goal; but both must find a place in the international system".[72] Above all, interpretations of the concept highlight differences in view between "environmentalists" of the industrialized, polluted North and defenders of the need and right of people in the less developed South to economic development before

---

[68] Like that of Pallemaerts', M., 1993, e.g., p. 16 (see *supra*); But *contra* "[i]ndustrialization, urbanization and population growth all help to explain the developing world's growing environmental problems, but they are not the only reasons. Poverty itself makes things worse. And the biggest culprit of all is the failure of governments and institutions to pursue sensible policies. Water pollution ... is a case in point", *The Economist*, Special Survey on 'Development and Environment', March 21st 1998, p. 5; and see Conable, B.B., 1990; Okonmah, P.D., 1997, p. 60.

[69] Literature on this topic is vast in several fields of the social sciences. In relation to international environmental law, see e.g. Sinjela, M., 1984; Handl, G., 1988, p. 607; Beckerman, W., 1992, pp. 481-496; Okonmah, P.D., 1997; Generally, see Redclift, M., 1987; Already in the run-up to the Stockholm Conference, the so-called Founex Report had acknowledged that environmental problems in developing countries are "predominantly problems that reflect poverty and the very lack of development of their societies..." whereas the environmental problems of developed countries were seen "very largely" as "the outcome of a high level of economic development". The Founex Report was the outcome of a panel of experts convened by the Chairman of the Stockholm Conference, Maurice Strong, on 4-12 June 1971. Reprinted in Annex I U.N. Doc. A/CONF.48/10, 22 Dec. 1971; see ch. A para. 2-4; On IMF and WHO references to the cause-effect relationship between environment and development, see Fabra, A., 2002, http://.unhchr.ch/environment/bp3.html.

[70] See e.g. French governmental study proposing that "[l]a preservation de l'environnement s'affirme de plus en plus comme un objectif politique essentiel, parfaitement compatible avec la croissance économique. Le Conseil économique et social définit, dans cette perspective, les voies et moyens d'un développement durable', Billet, J., 1998.

[71] Rio Declaration, Principle 5; Also see Boyle, A. 1994, pp. 173-188.

[72] Lowe, V., 1999, p. 37; See generally also Redclift, M., 1987 on contradictions built into the concept of sustainable development.

or alongside environmental protection.[73] In domestic situations, the analogy could be that of urban fury with plans for further polluting roads, while the same construction of infrastructure is welcomed as bringing new opportunities in rural areas where pollution is but a marginal problem. This kind of dichotomy was fully alive throughout the Rio negotiations, reflecting that "[i]n a world constructed on the basis of binary oppositions, logic dictated that to be pro-development was necessarily to be anti-environment and vice-versa", and states "found themselves aligned across a single divide and were made to repress most of the other possible dichotomies and available alignments, if those did not fit in with the primary North-South divide".[74]

The only hope of reconciling the juxtaposed, and seemingly irreconcilable concepts[75] of environment and development lies in a "complex balancing act"[76], including the possibility, firstly for developing countries, of realizing that there is no longer only economic law or development law, but that environmental aspects have come to stay in the form of legal restraints. This holds the potential for building societies which consider both present and future needs, and which at best, where it is not already too late, could avoid some of the environmental problems created earlier by unbridled industrial activities in

---

[73] In the early 2000s, South-North issues, as well as polluter-lesser polluter divides, are only too well demonstrated by the efforts to develop legally-binding commitments under the Global Warming Convention. There are great elements of polarization baked into this complicated dough, and the strong divide of interests comes in clear-cut groups of states with different economic standards, and, most notably, different records of polluting. Real polluters do not want to take responsibility unless smaller ones pitch in; lesser polluters are equally reluctant, although they may on some basis of fairness be right in refusing. On the other hand, some of the worst environmental problems today are to be found in developing countries: See e.g. *The Economist* special survey on 'Development and the Environment', March 21st 1998; "Poor countries have the world's worst environmental problems. They cannot afford to put up with them...". "... [T]he environmental problems that developing countries should worry about are different from those that western pundits have fashionable arguments over. They are not about potential problems in the next century, but about indisputable harm being caused today by, above all, contaminated water and polluted air. ... [C]ontrary to conventional wisdom, solving such problems need not hurt economic growth; indeed dealing with them now will generally be cheaper than leaving them to cause further harm", p. 3. This highlights the dilemma (*Cf.* Beckerman, W., 1992, pp. 481-496) that all of international law on the environment may suffer if local and immediate problems are juxtaposed to long-term global problems, when, in fact, both need simultaneous action.

[74] Porras, I.M., 1993, p. 22.

[75] *Cf.* discussion on "a human rights approach to development", e.g. Hamm, B.I., 2001.

[76] Boyle, A., 1996, p. 64; and *cf.* Boyle, A. & D. Freestone, 1999. On balancing or reconciling different interests, see also e.g. Conable, B.B, 1990; Shelton, D., 1991, p. 117; and Redgewell, C., 1996, p. 87; And see Redclift, M., 1987, who writes that "[s]ustainable development, if it is not to be devoid of analytical content, means more than seeking a compromise between the natural environment and the pursuit of economic growth. It means a definition of development which recognizes that the limits of sustainability have structural as well as natural origins", p. 199.

developed countries.[77] The other side of this coin is for developed countries, alone and through key international institutions, especially financing institutions,[78] to bear their responsibility in economically realizing such an aim. "Common but differentiated responsibilities", a phrase born out of the Rio process, to be found in several multilateral treaties,[79] and reiterated in the Johannesburg Plan of Implementation, is often seen as fundamental to any successful realization of sustainable development. The notion is based on the acknowledgement by developed countries that they bear a responsibility "in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technological and financial resources they command".[80] It thus presupposes financial assistance and technology transfers from developed to developing countries.[81] Its implication is also to give countries either different time frames within which to implement concrete obligations, or to give them different aims or reduction targets depending on their resources and on how much they contribute to pollution or other degradation.

However, international environmental law today does not rest solely on a strong yet circumscribed pollution prevention duty, nor does it depend wholly on the paradoxes and contradictions created by the idea of sustainable development. The Stockholm and Rio Declarations, along with other soft law documents and, most importantly, many treaties, have consolidated some other environmental rules and principles of great relevance. This is where norms on information may – or may not - come to play their role. Information does not exist in a legal vacuum, but is dependent on several other rules and principles, traditional co-operation and forward-looking precaution being the foremost.

---

[77] On early examples of differences in attitudes between developed and developing countries to environmental protection, see Doud, A.L., 1972, pp. 520-529; Sinjela, A.M., 1984; and more recently, see Okonmah, P.D., 1997, p. 60, who claims that "the continued degradation of the human environment has become a major concern in all parts of the world", but that "most developing countries pay only lip-service to this concern".

[78] On multilateral development banks' affirmative duty to act towards the goals of sustainable development (as opposed to avoiding causing harm only), see Handl, G., 2001, pp. 31-34.

[79] See e.g. Rio Declaration, Principle 7; 1992 Global Climate Change Convention, Preamble; 1992 Biological Diversity Convention, Preamble.

[80] Rio Declaration, Principle 7; On "capacity-building", see Ponce-Nava, D., 1995, pp. 131-140.

[81] Stockholm Declaration, Principles 9 and 20; Rio Declaration, Principles 7 and 9. See further Handl, G., 2001, pp. 170- 172.

The main thrust of most environmental treaties relates to cooperation between the contracting parties. The duty of states to co-operate can be argued to be a well-established legal duty in its own right,[82] aiming, in its environmental context, at prevention of harm and drawing validity from such underlying principles as good neighbourliness.[83] According to Boyle, "...co-operation is at the heart of contemporary international environmental law, and represents perhaps the key strategy for its implementation".[84] Despite its fundamental character, or maybe because of it, most formulations of the obligation of states to cooperate are only general exhortations, such as the Draft Article on cooperation adopted by the International Law Commission under the recently finished prevention heading of its liability topic.[85] Draft Article 4 reads:

> States concerned shall cooperate in good faith and, as necessary, seek the assistance of one or more competent international organizations in preventing significant transboundary harm or at any event in minimizing the risk thereof.

This is very much a traditional inter-state cooperation provision, which does not provide for a legal obligation of cooperation for third states not affected by transboundary harm or risk thereof. It acknowledges the possibility of seeking assistance from international organizations when such exist or can be of help, and is actually needed, but it does not create any new obligations for organizations. On the other hand, the fact that all states concerned do not ask for assistance in a given situation "does not free individual States from the obligation to seek assistance".[86] More specific forms of cooperation then appear

---

[82] On related duties to consult and negotiate, see esp. the *Gabcikovo-Nagymaros Project* (Hungary v. Slovakia), *ICJ Reports*, 1997, p. 7 *et seq.*

[83] See chapter 1.2.1. above. See Bothe, M., 1980, p. 394; See also ILC: Barboza, *Sixth Report* A/CN.4/428 and A/CN.4/428/Add.1, Article 7; and see draft articles on prevention in *Report of the International Law Commission on the Work of Its Fiftieth Session*, 1998, GAOR A/53/10, p. 19, Article 4 on cooperation.

[84] Boyle, A., 1994, 'The Principle of Co-operation...', p. 133; On co-operation as a rule of customary law, see Kiss, A-C, 1992, p. 11; But on the recently reawakened discussion on the role of unilateral actions in international law, esp. in environmental protection, see Boisson de Chazournes, 2000, pp. 315-338 and Bodansky, D., 2000, pp. 339-347.

[85] Report of the International Law Commission, Fifty-third session, 23 April-1 June and 2 July-10 August, 2001, GAOR, Fifty-sixth, Suppl. No 10, A/56/10, see Commentary to Article 4 at pp. 396-398 (at http://www.un.org/law/ilc/reports/2001/2001report.htm); *Cf.* with earlier draft version in *Report of the International Law Commission on the Work of Its Fiftieth Session*, 1998, GAOR A/53/10, p. 37.

[86] Ibid., Commentary, p. 398.

later in Draft, often taking the form of procedural duties, such as establishing risk assessments, notifications, entering into negotiations and consultations, and finally dispute resolution. As treaty compliance is one of the central concerns manifested in treaty texts themselves, a great number of provisions deal with different kinds of environmental information sharing, reporting and other methods of supervision and compliance control, all of which will be dealt with in greater detail below. In this sense, there is a strong case for simply considering information sharing a subcategory or pronouncement of the perhaps even more fundamental idea of cooperation. In the end, the nature of the relationship between these principles is not as important as the fact that they are related and have a common aim. The limits of another set of very traditional legal principles, state responsibility and liability, and particularly their relationship to procedural obligations, are examined below, in Chapter 2.5.

There have been, since the principle first appeared in the late 1970s and early 1980s, numerous ways of defining the so-called precautionary principle.[87] The most often reiterated understanding of it is that "lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation". Another frequent definition is "even when there is no conclusive evidence of a causal relationship between the inputs and the effects".[88] In most cases, precaution is referred to very much as a forward-looking principle, one of early prevention of environmental harm, related but not equal to the earlier developed duty to prevent, reduce and control harm, and thus completely different from responsibility, which, although also potentially preventive in nature, has legal consequences that include after-the-fact liability.[89] There are also some

---

[87] For some seminal works see first Rehbinder, E., 1987; and see Gündling, L., 1990, pp. 23-30; Cameron, J. & J. Abouchar, 1991, pp. 1-27; Freestone, D., 1991, Ch. 2; Nollkaemper, A., 1991; Cameron, J. & W. Wade-Gery, 1992; Hey, E., 1992, pp. 303-318; O'Riordan, T. & J. Cameron, eds., 1994; Krämer, L., 2000, pp. 16-17; Granet, M-B, 2001; Swedish Government Official Reports, *On the General Principles of Environmental Protection,* 1994:69, pp. 45-51; further 'Final Statement from the Lowell International Summit on Science and the Precautionary Principle', 20-22. 9 2001, at http://www.biotech-info.net/final_statement.html.

[88] In the first case, for instance, Rio Declaration, Principle 15; In the second case, for instance, the 1992 Baltic Sea Convention (Article 3(2)) and in the 1992 North East Atlantic Convention (Article 2(2)(a)).

[89] The introduction of the precautionary principle has, in one argument, worked towards a lowering of the threshold level of proof. But reference to the precautionary principle could also be analysed according to the severity of harm foreseen. For instance, the 1992 Rio Declaration and the 1992 Climate Change Convention set the level at "threats of serious or irreversible damage..."; the Convention on Biological Diversity, uses the wording "...threat of significant reduction or loss of biological diversity..." (Preamble only); Agenda 21, UN Doc. A/CONF.151/26, sets the level (in so far as radioactive waste storage) at "...no unacceptable risk..."; and the ECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes,

other ways of understanding the principle: as unqualified references to the reduction of risk, to the maintenance of the *status quo*, and perhaps least convincing, to the amelioration of the state of the environment.[90]

On a common-sense level the relationship between precaution and openness seems self-evident: without knowledge of a certain activity or problem one cannot deal with it at all. Knowledge about a problem is of course quite different from scientific evidence on the same, and just that is the heart of the relationship between the principles: "mere" information may activate precaution. This was the case in the experience in Europe on BSE or "mad cow disease", where even countries with no recorded cases of cattle with the disease decided to forbid the use of all cattle feed containing bone marrow and other potentially infection carrying material already before further investigations into either the feed or the health of the animals.[91] However, the main thrust of the debate around the precautionary principle now connects it to risk assessments[92] and risk management,[93] thus giving science and administrative measures, respectively, the main roles in judging when

---

Helsinki, 17.3.1992, in force 6.10.1996, sets the threshold as low as "... potential transboundary impact..."; Further on precaution in relation to nuclear activities, see Granet, M-B, 2001.

[90] Also, seeking to restore harm which has already been done, but without being the same as "precaution", some multilateral treaties have formulated expressions of environmental protection that go well beyond the basic rule to prevent, reduce and control environmental harm: For instance, Article 3(1) of the 1992 Baltic Sea Convention, lays down that "[t]he Contracting Parties shall individually or jointly take all appropriate legislative, administrative or other relevant measures to prevent and *eliminate pollution* in order to promote the *ecological restoration* of the Baltic Sea Area and the *preservation of its ecological balance*" (emphasis added). See also the somewhat less radical wording in Article 2(1)(a) of the 1992 North East Atlantic Convention: "...*when practicable restore* marine areas which have been adversely affected" (emphasis added).

[91] Finland and Sweden both declared such feed forbidden in the autumn of 2000, shortly after the outbreak of the scare in other EU countries; Generally, see Groth, E, 2000; And generally on the BSE affair, see *i.a.* speech by J. Santer, president of the European Commission, 18.2.1997, at http://europa.ei.int/en/comm/js/js180297en.htm; On the WTO, precaution and trade in foodstuffs, see Noiville, C., 2000.

[92] Generally, on the large debate on risk as an element of modern society, see e.g. Beck, U., 1995 for seminal piece; and e.g. Lofstedt, R. & L. Frewer, 1998, for discussions both on the concept as elaborated by Beck, Giddens, etc., and on concrete and theoretical issues in diverse fields of science; More specifically on scientific evidence of risk, see *Beef Hormones* case, WTO Appellate Body, EC Measures Concerning Meat and Meat Products (Hormones), 16 Jan. 1998, WT/DS26/AB/R, para. 197; and in relation to the veterinary product bovine somatotrophin, see Court of First Instance, case T-382/00, *Monsanto Co. against the Council of the European Union*, 22.12.2000.

[93] See OECD, Joint Session of Trade and Environment Experts, *Environmental Principles and Concepts*, COM/RNV/TD(93)117/REV2, 1994, pp. 16-17. The report refers to the definition by the US National Academy of Sciences of risk management as a "process of regulatory action, integrating the results of risk assessment with engineering data, with social, economic, and political concerns to reach a decision".

precaution should be resorted to. It is of course ironic that although lack of "scientific evidence" – the original idea - should not prevent good environmental decisions, the role of science has in many cases been reinforced rather than properly questioned,[94] and other bases for decision-making (such as public participation and other than science-based values) may, in the course of the process which has led the precautionary principle to become part of the mainstream discourse on international law and the environment, not have gained as much argumentative power as one might assume.[95]

The European Commission adds risk communication to risk assessments and risk management as a further step in realizing precaution.[96] The idea of risk communication as part of precaution is crucial to the topic of this study: it suggests that information is clearly *pre*ventive in nature, although this is a statement with some modifications, as will be argued below in relation to accident information. Risk communication as an element of precaution brings in one further issue of great relevance: legitimacy. The Commission in its Communication on precaution warns against resorting to precaution as a disguised form of protectionism,[97] and, most interestingly, as a basis for arbitrary action. This latter point inevitably highlights issues of decision-making and institutional structures in the EU[98] and, considering also the former point of protectionism, more generally in a globalized setting. Thus openness and precaution are connected and this connection has some relation or relevance to accountability and the legitimacy of decision-making.[99] The missing link, on

[94] See Fisher, E., 2000, p. 404-405 on relationship between EU and WTO regimes, scientific evidence and precaution; and see *Science*, 12.5.2000, pp. 979-981; *cf.* Groth, E., 2000; and see 'Final Statement from the Lowell International Summit on Science and the Precautionary Principle', 20-22. 9 2001, at http://www.biotech-info.net/final_statement.html; But *contra* for the argument that science is often disregarded in environmental decision-making and that better procedures should be found to integrate it, see Robinson, N., 2001, pp. 1077-1161; and on problems between scientific advice and environmental policy, see Fritz, J-S., 2001 and see UN System-Wide Earthwatch Coordination Office *Second Report on International Scientific Advisory Processes on the Environment and Sustainable Development*, at www.unep.ch/earthe/sciadv2.html

[95] Generally, see Testart, J., in *Le Monde Diplomatique*, (English version) September 2000.

[96] Communication from the Commission on the precautionary principle, Brussels, 2.2.2000, COM(2000)1 final.

[97] On WTO and precaution in relation to trade in foodstuffs, see also Noiville, C., 2000, pp. 263-297.

[98] See e.g. Lodge, J., 1994; generally Andersen, S. & K. Eliassen, 1996; and see Joerges, Ch. & E. Vos, eds., 1999 on comitology and administrative procedure in the EU, also in other areas than environmental law, and which may have points in common with this broader issue of precaution and accountability or legitimacy of decision-making; See also de Sadeleer, N., 2001, pp. 91-132; and issue 2(1) *European Union Politics* 2001 for a range of discussions on institutional change, democracy etc. in the EU.

the national and perhaps also on the EU-level, is public participation, an issue mentioned in the Commission's communication mainly by reference to the Aarhus Convention, but which becomes, as a consequence of the somewhat confusing view on the role of science, less emphasised.

All in all, this makes for a troubling circle, where the relationship between openness and precaution would seem understandable, but the role of science less clear. However, the threesome of risk assessment, management and communication function as good examples of a "managerial ethic" - an idea that will be examined in the next chapters. These three factors emphasise the functionalistic rather than any "confrontational/political" or "purely" science-based value bases for environmental decision-making. Not surprisingly therefore, precaution finds concrete expression[100] mainly in a number of technology-based methods,[101] and only seldom in the rather radical understanding of reversals in the burden of proof: For instance in connection to prior authorisation procedures (that is that an activity is prohibited unless those responsible for the undertaking [producers, manufacturers, importers, shippers, etc.] can show that the activity would cause no/no unacceptable environmental harm),[102] or most unusually in the complete prohibition of certain activities.[103] Some writers have criticized pronunciations of the principle for not allowing enough room for weighing the possible benefits of an activity against the risks it

---

[99] On expert and scientists' power in the sector-based EC environmental law, see de Sadeleer, N., 2001, p. 132: "Devenu l'apanage des experts, le droit qui en résulte contredit l'idéal démocratique de participation et de transparence de ceux qui entendent protéger l'environnement et la santé humaine"; And on the politics of experts and professionals in human rights, see Kennedy, D., 2001, 'The Politics of...'.

[100] See 'Late Lessons from Early Warnings – the Precautionary Principle 1896-2000', the European Environment Agency (EEA), Copenhagen, 10.1 2002 at http://reports.eea.eu.int/environmental_issue_report_2001_22/en,.

[101] Such as Environmentally Sound Management, Best Environmental Practice (BEP); Best Available Technology (BAT); Best Practicable Means; State of the Art; Life-cycle Assessment; Cradle-to-grave; Critical Loads; Sustainable Yield; etc., see generally on some of these concepts, Handl, G., 2001.

[102] Under Oslo Commission Decision 89/1 of 14 June 1989 on the Reduction and Cessation of Dumping Industrial Wastes at Sea such industrial wastes which were not completely prohibited to dump could only be dumped into the North Sea by special permission of the Oslo Commission if the potential dumper showed that there were no alternative disposal sites available on land and that the activity would not cause environmental harm; And see Communication from the Commission on the precautionary principle, Brussels, 2.2.2000, COM(2000)1, p. 4, which states that reversals in the burden of proof cannot be made a general rule although some Member States have prior authorisation procedures for some activities or products.

[103] Such as the unusual 1982 whaling moratorium adopted by the International Whaling Commission, established under Article 3 of the International Convention for the Regulation of Whaling, Washington, 2.12.1946, in force 10.11.1948. See Lyster, S., 1985, pp. 19-21; See also above on the 2000-2001 BSE outbreak and forbidden cattle feed; and see Kiss, A. & J-P Beurier, 2000.

poses.[104] Environmental impact assessment (EIA) requirements have however become unusually clear manifestations of precaution (in the risk assessment-management-communication sense)[105] and amount to a situation where ignorance can no longer diminish responsibility. This makes for an interesting situation where the "primary" principle - precaution - which is still marred by many possible interpretations – may not have as strong a position in general international law as does one of its concrete expressions, prior EIAs.[106] By way of an example, the ILC Draft Articles on prevention under the liability topic do not make any mention of precaution (although discussed by the Special Rapporteur, Mr. Rao) but they include Article 8 on impact assessment before the authorization of an activity that could cause transboundary harm.[107] Environmental impact assessments are also very important means of gathering environmental information,[108] and they represent one of the primary techniques in which public participation at the local level is often possible.[109]

---

[104] E.g. Katz, D., 2001, argues that in relation to evaluating risks and benefits of genetic engineering, the precautionary principle under the Biosafety Protocol does not acknowledge the benefits of genetic engineering, and that the principle is too strictly defined to address agricultural biotechnology, and "further, that the principle may not be appropriate at all".

[105] See e.g. Kuwait Regional Convention for Co-operation on the Protection of the Marine Environment from Pollution, Kuwait, 24.4.1978, in force 1.7.1979, Article 11; LOSC, Art. 206; Convention on Environmental Impact Assessment in a Transboundary Context, Espoo, 25.2.1991, in force 10.9.1997; Convention for the Protection of the Natural Resources and Environment of the South Pacific Region, Noumea, 25.11.1986, in force 22.8.1990; Convention on Biological Diversity, Article 14(1); For a relatively weak expression of EIA, see the Rio Declaration, Principle 17, which refers to EIA as a "national instrument" only; For an example of concrete measures for conducting EIAs, see Arctic Council's Guidelines for Environmental Impact Assessment in the Arctic, look under http://www.arctic-council.org/

[106] See esp. Boyle, A., 'The Principle of Co-operation...', 1994, p. 133, and Birnie, P. & A. Boyle, 1992, p. 97, and *cf.* ibid., 2002, p. ...; and *cf.* McIntyre, O & T. Mosedale, 1997, pp. 221-241; but see McIntyre, O., 1998, p. 89, who writes that "[f]ew would challenge the view that the precautionary principle has now crystallised into an *ergo omnes* norm of customary international law. Though few would argue that it amounts to a new rule having *jus cogens* status, ..."; See also Handl, G., 2001, p. 94, who refers to EIAs as "general international legal requirement", and at pp. 146-147, to the precautionary principle as an "established public policy principle and sector specific legal concept", i.e. customary vis-à-vis some activities such as those affecting the global commons, the marine environment generally, high seas fisheries, the ozone layer and climate change. *Contra* see Knox, J.H., 2002, who argues that EIAs are manifestations of nondiscrimination, not prevention.

[107] *Report of the International Law Commission on the Work of Its Fiftieth Session*, 1998, GAOR A/53/10, p. 20. See also commentary, pp. 43-46. And see First Report by Special Rapporteur P.S. Rao where he discusses i.a. the precautionary principle, A/CN.4/487 and Add. 1.

[108] See McIntyre, O., 1998, p. 89, n. 59; and, by way of example, see also NGO case studies on environmental impacts of IMF programmes, at http://www.foe.org/international/imf/; see e.g. Finnish NGO campaign in 2002 for greater insight into EIA documents related to governmental export guarantees to non-OECD countries, e.g., at http://kepa.fi/ or http://www.luontoliitto.fi/.

1.2. On the Role of Environmental Information in International Law

1.2.1. The Current Managerial Ethic

Having discussed those principles of international law – prevention, cooperation, precaution and sustainable development - that are perhaps most relevant to information duties, it is necessary to turn briefly to some other factors that constitute the legal and historical or social "home" of environmental information. A number of factors coincided in the late 1980s and 1990s to create circumstances where information and transparency began to thrive and that eventually made openness a key issue also in environmental law.

Although the formidable changes in political structures in Eastern Europe must not be overused as explanations to all changes in recent political atmosphere,[110] it would be odd not to consider these changes as, if not reasons, then "final drops" for more than the rhetoric of openness and diminished suspicion between countries. After all, *glasnost*, a policy on transparency, was seminal to the fall of both the Berlin Wall and the Soviet Union, and the catastrophe at Chernobyl led to the adoption at record-breaking pace of the Convention on Early Notification on a Nuclear Accident.[111] As shown by the slow and conflicting news given by Russian authorities during the humanitarian and potentially environmental catastrophe caused by the sinking of the *Kursk* submarine in August 2000,[112] a decade or two is too short a timeframe to erase a well-rooted culture of secrecy. Yet it may be assumed that something new is taking shape. A culture of openness is slowly developing in key institutions around the world, such as the World Bank, which in its

---

[109] On environmental assessments in a EU and comparative context see, Ladeur, K-H & R. Prella, 2001, pp. 185-198; and on "substantial compliance" with the EC EIA Directive in the UK see *Berkeley v. Secretary of State for the Environment and Others* and case law analyses in 10(2) *JEL* 1998, pp. 368-397, and 13(1) *JEL* 2001, pp. 89-105: "[...] the EIA regime is distinctive, within the context of EC law, in the strength that it attaches to the role of the public. 'Substantial compliance' with the EIA Directive means more than the decision-maker considering the relevant environmental information. That information must be presented in the form and manner required by the Directive, and at the stage that it is required.", p. 105; But *cf.* for an emphasis on EIA as a means of integrating scientific information in decision-making, see Robinson, N., 2001, p. 1056.

[110] On the impact of the end of Cold War on e.g. human rights development, see Müllerson, R., 1997, pp. 102 *et sec.;* Müllerson, R., 1999, pp. 234-235.

[111] Convention on Early Notification of a Nuclear Accident, Vienna, 26.9.1986, in force 27.10.1986

[112] See e.g. *The Economist*, 26.8.-1.9.2000, p. 11; and *Time*, 28.8.2000, pp. 10-17.

Policy on Information Disclosure states that the sharing of information stimulates debate, broadens understanding of development issues, facilitates cooperation among the parties involved, and serves to strengthen public support for efforts to improve the lives of people in developing countries.[113] Debates on the merits of openness are blooming in several fora, not least in the European Union, and recent environmental treaties contain language that indicates a greater understanding of the need to promote openness.[114]

Secondly, the great political upheavals of the late 1980s and early 1990s coincided with the coming of the Information Age.[115] Nothing less than a technological revolution, the explosion of all forms of instant electronic surveillance, including the *Terra* and *Envisat* satellites for gathering environmental data,[116] and communication, including the Internet, can be assumed to have raised popular expectations of the availability of all types of information. Great amounts of information that used to be available only if states or other big actors provided it, are now accessible to all on the Internet due to private initiative, and states are following suit. Despite the enormous potential for receiving environmental data, the new technology is not unproblematic: it is "mere" technology, not directly decision-making, but indirectly value- creating, especially given the belief in the supremacy of technology (as in Western solutions to global problems);[117] it can be difficult to establish what is relevant among too much material, and the new technology and information is still

---

[113] Draft Review of World Bank Policy on Information Disclosure, 1994, Foreword by L.T. Preston, President. The World Bank Group, Information Disclosure Consultation Home Page, accessed in September 2000 at http://www.worldbank.org/html/pic/disclosure/index.htm; See also revised WB Disclosure Policy of September 2001, effective in early 2002, at same address.

[114] But *contra* for some relatively cautious language in a recent treaty, see Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, Rotterdam, 11.10.1998, not in force. UNEP/FAO/PIC/CONF/5. Art. 15(2): "Each Party shall ensure, *to the extent practicable*, that the public has *appropriate* access to information on chemical handling and accident management and on alternatives that are safer for human health or the environment than the chemicals listen in Annex III." (emphasis added)

[115] *Cf.* generally on human rights in the "Information Age", Walters, G., 2001.

[116] Especially NASA's *Terra* satellite, launched 18.12.1999 and part of NASA'a Earth Observing System (EOS), from which images are available to large numbers of researchers worldwide, look at http://eos-am.gsfc.nasa.gov/; and also the European Space Agency's (ESA) *Envisat* launched 1.3.2002 to gather environmental data, including data on stratospheric ozone, temperature and climate change, the state of the oceans and coastal regions, etc., look at http://www.esa.int/export/esaCP/index.html.

[117] Technology is seldom "neutral": fostering "belief" in or reliance on technology may itself be as much a "value" as anything else. *Cf.* below on internet code.

far from being available to all.[118] Information poverty in the developing world is the other side of the coin of information over-load in the affluent and technology-believing West.[119]

The role of the internet for dissemination of environmental information worldwide is a massive issue, and one where only future research can give any reliable results. At present we are left guessing, and relatively few social scientists have so far tried to tackle the basic issues of whether the internet can be presumed to change human political or other, for example environmental, behavior.[120] There is cyber-optimism and cyber-pessimism alike, and both seem to be too simplified to offer comfortable bases for research. Some see the possibilities of the internet as nearly unlimited for education and democratic participation, whereas others do not believe the internet will change anything, and that management and politics, including international politics and law, will be done as always before.[121] The Malmö Ministerial Declaration of May 2000 phrases the challenge by information technology this way: "To confront the underlying causes of environmental degradation and poverty... We must also intensify our efforts in developing preventive action and a concerted response, including national environmental governance and the international rule of law, awareness-raising and education, and *harness the power of information technology to this end*".[122] One argument in this direction is related to bringing the issue of internet code regulation into the domain of public international law,[123] thus helping to ensure that

---

[118] For several discussions on information technology, infrastructure, poverty, corruption etc. and developing countries, see *Kehitys-Utveckling* 4/2001. On UN ICT efforts to bridge the "digital gap", see *ibid.* pp. 14-15.

[119] Norris, P., 2000, and *ibidem*, 2001.

[120] See work of e.g. the Norwegian Research Center for Computers and Law, University of Oslo; And see Keskinen, A., 1999 on decision-making and development of democratic processes in the future information society and in present administration; Mayer, P.G., 1999, on internet and public law (in Germany).

[121] For discussions covering several disciplines from law to anthropology, see Symposium at Indiana University School of Law: 'The Internet and the Sovereign State: The Role of Cyberspace on National and Global Governance', 5(2) *Global Legal Studies Journal*, Spring 1998. See esp. Perritt, H.H, pp. 423-442, on the internet in relation to sovereignty and national and international governance in liberal international relations theory (and *cf.* Perritt, H.H., 1998, 'The Internet is Changing International Law') The Symposium offers several discussions *pro et contra* and on subjects closely related, see Fidler, D.P, 1998, p. 415-. Further, in relation to international law, see Wedgwood, 2000.

[122] Emphasis added. Para. 7, Malmö Ministerial Declaration, First Global Ministerial Environment Forum, 31.5 2000, at http://www.unep.org/malmo/malmo_ministerial.htm

[123] See esp. discussions by UNESCO, *Les dimensions internationales du droit du cyberespace*, 2000. See further on WIPO and internet regulation, at http://wipo2.wipo.int/process.

shared interests, as opposed to private actors' or the richest or technologically most advanced states' values and interests only, become prevalent.[124]

A third factor of relevance for the birth of a new culture of openness in environmental law is the simple assumption that an increased environmental consciousness and sense of urgency has developed globally.[125] Environmental issues at large have gained widespread interest in many political groups and in most countries. Even if much is mere lip service, public attention has been awakened. The 1992 Rio Conference on Environment and Development was a highpoint in political attention being paid to environmental issues. Despite something of a slump in international environmental activity after the Conference, environment-related law and institutions developed considerably during the 1990s. Traditional consent-based treaties flourished, but some new institutional set-ups with majority voting or expertise-led standard setting also evolved. A major political concern and common theme for researchers of international environmental cooperation in the 1990s was, and still is, compliance with and the "effectiveness" of existing treaty regimes.[126] Different accountability-methods, whether called peer review, supervision, monitoring or verification have been topical,[127] as well as the first steps taken towards more flexible and

---

[124] Lessig, L., 1999; and see Mayer, F.C., 2001, pp. 617-622.

[125] Ibid, Malmö Declaration, para. 25, optimistically claims that "the unprecedented developments in production and information technologies, the emergence of a younger generation with a clear sense of optimism, solidarity and values, women increasingly aware and with an enhanced and active role in society – all point to the emergence of a new consiousness".

[126] See e.g. Fisher, R., 1981; Young, O., 1989; Chayes, A. & A.H. Chayes, 1991, pp. 280-308; Chayes, A. & A.H. Chayes, 'Compliance without..., 1991, pp. 311-330; Young, O., 1991; Baker, B., 1992, pp. 333-365; Greene, O., 1992, pp. 265-274; Koskenniemi, M., 1992, pp. 123-162; Wettestad, J., 1992, pp. 101-121; Haas, P.M, R.O. Keohane & M.A. Levy (eds),1993; Keohane, R.O., P.M. Haas & M.A. Levy, 1993, pp. 3-24; Levy, M.A., R.O. Keohane & P.M. Haas, 1993, pp. 397-426; Skjaerseth, J.B., 1993, pp. 313-334; Mitchell, R.B., 1993, pp. 327-339; Mitchell, R.B., 1994; Haas, P.M., 1994; Handl, G., 1994, pp. 305-331; Jacobson, H. & E. Brown Weiss, 1994; Underdal, A., 1994, pp. 92-123; Szell, P., 1995; Jacobson, H. & E. Brown Weiss, 1995, pp. 119-148; Brown Weiss, E., 1995; *The Effectiveness of Multilateral Environmental Agreements - A Report from a Nordic Project*, Copenhagen: Nordic Council of Ministers, *TemaNord* 1996:513; Wolfrum, R., 1996, pp. 373-393; Victor, D. 1996; Victor, D.G., 1997; Victor, D.G., K. Raustiala & E.B Skolnikoff, 1997; And see the American Society of International Law, Annual Meeting, Washington D.C., April 1997 theme on "Implementation, Compliance and Effectiveness"; Further Victor, D.G., 1998; Jacobson, H. & E. Brown Weiss, 1998; Brown Weiss, E., 1999; Young, O., 1999; Haas, P.M., 2000; Shelton, D., 2000; Alvarez, J.E., 2001, pp. 183-246.

[127] See e.g. Voelckel, M., 1976, pp. 223-246; Kiss, A-C., 1980, pp. 99-112; Charpentier, J., pp. 147-245; Grossman, C., 1984, pp. 489-514; Butler, W.E., 1991; Churchill, R., 1991, pp. 147-163; Vinogradov, S.V., 1991, pp. 97-105; Fischer, W., 1991; Sachariev, K., 1991, pp. 31-52; Timoshenko, A.S., 1991, pp. 51-59; di Primio, J.C., G. Stein, H.F. Wagner, 1992, pp. 4-5, 45; *International Environment: International Agreements Are Not Well Monitored*, United States General Accounting Office Report to Congressional Requesters, January 1992, GAO/RCED-92-43; *International Environment: Strengthening the Implementation of*

"effective" decision-making.[128] Most recently, the latter has given rise to a new debate – only just taking shape – related to legitimacy in international environmental decision-making.[129]

Factors, such as political change, the new information technology and environmental consciousness, have probably come together with other less easily discernible ones to create the present "assumption in favor of disclosure", to cite the World Bank. The task set out for this study is not, and could not be, to prove the causal relationship between the above-mentioned factors that may have helped create more openness; they are but background assumptions. Neither could this study aim to "prove" the causal relationship between more information and a better environment, as suggested in the rhetorical question of the topic. A study in law cannot explain a phenomenon in the sense possible in the natural sciences, but it can attempt to trace a developmental process and try to understand or sketch its limits and possible - or even imaginable - functions. Thus the challenge is to outline the very topical process by which norms on environmental information and openness have gained such a curiously central position in international environmental law, and to indicate the roles, the strengths and limits, of these norms in the evolution of international law on the environment as a whole.

Environmental information is no longer only state-centred and exclusive, but is more and more inclusive, that is, accessible to the public. Yet the process started from a very traditional public international – state-to-state – setting: from information to neighbouring states on planned activities, to accident notifications and various supervisory methods of finding out how states have fulfilled their duties under environmental treaties. Some information duties may have hardened into customary law, others are strictly treaty-based.

Environmental Agreements, United States General Accounting Office Report to Congressional Requesters, August 1992, GAO/RCED-92-188; Fischer, W., 1992, pp. 283-285; Ausubel, J.H. & D.G. Victor, 1992, pp. 1-43; Donlon, N., 1992, pp. 257-164; Ferreira, V., 1992, pp. 275-282; He, Quizhe, 1992, pp. 111-116; Boisson de Chazournes, L., April 1993; Boisson de Chazournes, L., 1995, pp. 37-76; Litfin, K.T, 1995; Széll, P., 1995, pp. 97-113; Werksman, J.D., 1996, p. 55-; Koskenniemi, M., 1996, pp. 236-248; Szasz, P.C., 1999; Knox, J.H., 2001, pp. 1-122.

[128] See esp. Lavranos, N., 2002, who writes about decision-making, sometimes by majority voting, in Conferences or Meetings of Parties under international environmental treaties, and which he argues are dynamic examples of something less than classical international organizations, but still more than traditional international agreements.

[129] For a seminal piece within international environmental law, see Bodansky, D., 1999; and see Schweitz, M.L., 1995, pp. 415-420; and Anderson, K., 2000, pp. 91-120.

Perhaps obviously, the common denominator of these information duties, as well as of the most recent developments away from state duties towards individual rights of access, is the logic of a need to know more in order to preserve and protect the environment better. An unusually clear example of such a conviction is presented by some prominent NGOs in the biodiversity field (e.g. the IUCN), who, under the mottos "Knowledge Serving Biodiversity" and "Better Data for Better Decisions" express the idea that building information management capacity, both technological and substantive, can improve decision-making.[130]

The first step in the evolution of *explicitly environmental* information in international law was taken, at least symbolically, with the 1986 Chernobyl accident and the adoption in the same year of the Convention on Early Notification of a Nuclear Accident.[131] The state duty to inform on transboundary environmental accidents has in recent decades further developed through many treaties and soft law documents, and this study will, in detail, examine its position in general international law. Accident notifications have also become very technology-centred methods of "communication": sensors read results processed by computers and relayed by equally technical warning systems. But the Chernobyl accident also highlighted some of the problems inherent in international law thus far, not least with regard to the weakness of state responsibility in relation to environmental problems. Not surprisingly therefore, in the 1990s, one theme overshadowed all others in the debate on international law and the environment: the cry for compliance with existing norms. While the 1980s, and up until the Rio Conference of 1992, were characterized by a surge in treaty negotiation and other forms of norm creation,[132] the subsequent demand was for better monitoring of state behaviour, more effective management of treaties and better methods of inducing compliance.

---

[130] The BCIS Consortium, see www.biodiversity.org for examples of handbooks that the Consortium has produced to this end.

[131] As compared to other relevant information to another state, such as in the above-cited *Corfu Channel* case; See Nordström, N., 1996.

[132] The number of international instruments dealing with the environment had already reached over 1000 in the early 1990s. See B. Rüster, B. Simma & M. Bock, eds., *International Protection...*1970-1983; Kiss, A., 1983; *UNEP Register of International Treaties and Other Agreements in the Field of the Environment*, 1989; Hahn, R.W. & K.R. Richards, 1989, pp. 421-446; Sand, P.H., 1992; On the ensuing debate and notion of "treaty congestion", see Brown Weiss, E., 'New Directions...', 1995, pp. 4-7.

Despite many signs of adolescence rather than coming of age, accepted orthodoxy in the 1990s had it that a sufficient body of international environmental norms existed for them to be able to address the major global environmental problems, and that the main challenge was to ensure that states honour their promises,[133] and be made accountable, not via adjudication, enforcement, or sanctions,[134] but with the help of non-intrusive managerial control methods. In want of a functioning system of state responsibility, and as an answer to the perceived shortcomings of different economic, use-of-force or membership-based enforcement mechanisms,[135] softer non-compliance procedures (NCPs) were developed to deal with state commitments under environmental treaties. Among the proponents of managerial methods of inducing state compliance with international law, especially environmental law,[136] the most frequently used arguments against traditional enforcement mechanisms seem to have been that they are unnecessary because states usually comply with their obligations; that enforcement mechanisms are too political and not cost-effective enough; or that they are ineffective tools for dealing with state non-compliance, which normally stems from "ambiguous treaty language"[137] and inability rather than

[133] According to some scholars most states comply with most of their treaty obligations most of the time. See Henkin, L., 1979, 2nd. ed., p. 47; Henkin, L., 1989, p. 69; Chayes, A. & A.H. Chayes, 1991, p. 311; Chayes, A. & A.H. Chayes, 1995, p. 3, 8; See also D'Amato, A., pp. 1-10; but *contra* see Handl, G., 1994, pp. 305-331; and Koskenniemi, M., 1996, pp. 236-248. This study proposes to start from the opposite, problem-focusing, view. States are assumed not to comply with either some or many of their international environmental treaty obligations.

[134] "The effort to devise and incorporate such sanctions in treaties is largely a waste of time", Chayes, A. & A.H. Chayes, 1995, p. 2; Generally on the traditional bases of enforcement in international law, see e.g. Fitzmaurice, G.G., 1956.

[135] See book review (on Chayes, A. & A.H. Chayes, 1995) by Koh, H.H., 1997 for the argument that it is a misimpression that a management model would be an alternative to an enforcement model, the two complement each other; Generally on enforcement in international environmental law, see Bothe, M., 1996; and see Boyle, A., 'Saving the World?...', 1991; O'Connell, M.E., 1992; and on trade restrictions as compliance enforcement, see Lang, W., 1996.

[136] See especially Chayes, A. & A.H. Chayes, 1995 for their understanding of a "management model", esp. pp. 1-28; Further on regime theory, international environmental treaties and management-related issues, see e.g. Chayes, A. & A.H. Chayes, 1990, pp. 147-164; Chayes, A. & A.H. Chayes, 'Adjustment and Compliance... 1991, pp. 280-308; Chayes, A. & A.H. Chayes, 'Compliance without Enforcement..., 1991, pp. 311-330; Gehring, T., 1990, p. 35-56; Gehring, T., 1994; Spector, B.I. et al., 1994; Young, O., 1989; Young, O., 1990, pp. 337-346; Young, O., *On the Effectiveness of International Regimes...*, 1991; Young, O., 'The Effectiveness of ..., 1991; Young, O., 1993, pp. 431-451; Young, O., 1994; Victor, D. & A. Chayes & E.B. Skolnikoff, 1993, pp. 453-474.

[137] Chayes, A. & A.H. Chayes, 1995, in writing about "review and assessment" in international law, say that, in the course of such process, "[d]ifferences about the content and applicability of the governing norms are resolved", p. 230, yet they give very little indication as to how that would happen: " normative powers derives from a much more complicated dialogic process of interpretation and application, extending over time. It is closely linked to the pervasive demand of the international legal and political systems, that states and other international actors be prepared to justify their actions when challenged. The new sovereignty puts

unwillingness to fulfil international legal obligations. Regardless of the possible weaknesses of these arguments,[138]and ensuing pejorative language, the model has become influential in the sense that it accurately characterizes the approach clearly favoured by states to agree under most environmental treaties to soft, managerial persuasion,[139] co-operation and capacity-building rather than to enforcement.[140]Co-operation, Boyle notes, "represents perhaps the key strategy" for the implementation of international environmental law,[141] and the creation under NCPs of systems of information exchange, mostly reporting under treaties (as well as the forerunning accident information schemes), have been central not only to co-operation, but to a management model, where even the whole of prevention has been referred to as "essentially a question of the management of risk".[142] In the words of one writer, "[t]ransparency – the generation and dissemination of

---

the normative force of the treaty rules at the heart of the compliance process", p. 134; But the writers fail to discuss that review mechanisms, such as reporting and assessment, could well continue for a long time without coherence being achieved on norm content, which may be saturated with contradictory (rather than "merely" ambiguous) goals. In some instances the fear of conflict, rather than inability, may also be the reason for non-compliance with – contradictory – norms.

[138] Knox, J.H., 2001, pp. 24-26, mentions the following frequent criticisms: the model pays little attention to how states translate international norms into domestic law; it may underestimate the role of sanctions for making managerial methods more effective; non-confrontational and non-binding methods may actually provide states with opportunities to avoid compliance; and the same reasons that lead to reluctance to resort to adjudication may apply for reluctance to draw attention under non-confrontational mechanisms to other states' non-compliance. Knox also discusses Chayes & Chayes' lack of reference to the formal grounds for NGO, and expertise, participation in managerial methods, p. 26.

[139] As an example of classical realist reaction against institutional measures, one writer has said that "[i]nstitutional proliferation still prevails and proliferation will solve nothing" and that "it is a well-known phenomenon that institutionalizing a problem may as well serve as a means of cloaking inactivity or giving an illusion of action, as it may lead to action itself (a phenomenon known in Britain as the 'Royal Commission syndrome')" Baker, R., 1989, Part I, p. 40, 37. Baker also notes that some institutions can do direct damage to a process of remedying a particular environmental problem. He mentions the UNEP Desertification Branch as an example, p. 40. Baker also quotes the former Secretary-General of the United Nations, Kurt Waldheim, as having said that "it is often easier to call a conference, or even fund a new agency, than to confront a problem directly", p. 37, with reference to Myers, N. & D. Myers, 1983, p. 22.

[140] See e.g. Birnie, A. & P. Boyle, 1992, p. 162, write that "[r]egulation and supervision by international institutions has been identified as part of a general trend away from the solution of problems by strictly judicial means and towards the resolution of conflicts through an equitable balancing of interests and *ad hoc* political compromise."; and see Gehring, T., 1990, p. 35-56; Koskenniemi, M., 1996, p. 237; Knox, J.H., 2001, p. 25.

[141] Boyle, A., 1994, 'The Principle of Co-operation...', p. 133; See *supra* on co-operation in general international law.

[142] ILC, Special Rapporteur P.S. Rao, *Third Report on International Liability for Injurious Consequences Arising out of Acts Not Prohibited by International Law (Prevention of Transboundary Damage from Hazardous Activities)*. A/CN.4/510 (cited as ILC: Rao, *Third Report*); see *Report of the International Law Commission on the Work of its Fifty-second Session*, GAOR A/55/10, p. 275.

information about the requirements of the regulatory regime and the parties' performance under it – is probably the most important managerial method".[143]

The managerial model thus embraces a host of treaty-based systems, which are very pragmatic in nature and in which, in a functionalist manner, states use, for instance, information exchange systems to communicate, to work, to cooperate and to persuade each other towards compliance[144] with norms and incremental changes in environmental protection. But there may be at least one further way of using the term "managerial".[145] It is to treat this whole trend in international environmental law as part of a larger "culture" or "ethic": A "managerial ethic" is a pragmatic and functionalist ethic of very short and soft steps towards large, and often unpronounced goals. The 1990s "managerial ethic" is still clearly prevalent despite, or perhaps precisely because of, its flagrant disregard of contradictory goals[146] and the need for states to "fight" (despite fear to do so) over those goals[147] rather than to give that task to experts. This could be phrased differently: by embracing contradictory or empty norms without actually discussing their meaning or the values or goals attached to them, the "managerial ethic" in environmental law is part of the larger and often discussed trend to move from the substantive to the procedural.[148] Such a

---

[143] Knox, J.H., 2001, p. 23.

[144] Further on arguments on the utility of managerial methods for compliance enhancement, esp. through public shame and political pressure, see e.g. Young, O., 'The Effectiveness of ...', 1991, p. 176; And see Jacobson, H. & E. Brown Weiss, 1998, e.g. p. 543, on what they call "sunshine methods" of compliance enhancement, including those methods that promote transparency and therefore scrutiny in the open.

[145] Yet another use of the term appears in the notion "knowledge management", a euphemism for education and training, used i.a. by the IAEA to promote training of nuclear scientists in the face of ever fewer places of and falling interest in higher education in nuclear science, see further http://www.iaea.org/worldatom/Press/News/nuclear_knowledge.shtml.

[146] Such as environment and development discussed above, but several other juxtaposed concepts are equally difficult to reconcile, e.g. human-animal; economic value-inherent value; etc; On codification of international environmental law and the diversity of goals in that enterprise, see e.g. Arsanjani, M.H., 1990, pp. 170-178; see also *supra* on the discussion on sustainable development and further *infra* on environmental rights.

[147] See Kennedy, D., 2001, on how a managerial and technocratic approach to international affairs, born from a sense of reduction of the political sphere of international government, ignores and conceals real political choices, and on need to deal with and debate such political, social or other differences.

[148] And thus avoid the complexities of different irreconcilable values (and value-void?) and contradictory expectations on norms, as well exemplified by the environment-development juxtaposition; The general discussion on the proceduralization of law finds its roots with esp. Max Weber, see e.g. Whimster, M.S. & S. Lash, eds. 1987; Lassman, P. & R. Speirs, eds., 1994; Weber, M. (Baier, H. *et al.*), 1998; and see Habermaas, J., 2001, who creates the idea of procedural rationality on a very abstract level; see Tuori, K., 1988; and see Kennedy, D., 1999, esp. p. 469 on formalism and process in modern international law; Specifically on the

trend has developed - in the face of uncertainty, risk, unease with complexity and conflicting values – not only in, for instance, administrative law[149] but also in international law in recent decades. Concretely, this has often happened through the development first, of framework conventions, through which so-called environmental regimes later evolved with some substantive norms and many procedural arrangements.[150] Inter-state information exchanges seem to be one of the main methods of realizing a managerial trend in international environmental law, and the aim of the present study is to discuss and outline the features of this assumption on the role of information, how it relates to norms on environmental protection and to the legitimacy of their making.

There is room for unease with what appears to be the current information trend. While society at large is undergoing an "information revolution", comparable in magnitude and effect only to the industrial revolution, some types of state information exchanges are still often rather vacuous and circumscribed by states' own discretion, and others completely technology-dependent and create no situations of real exchange of views in a political or ethical sense. If the assumption is correct that information provisions play a major role in the prevailing managerial way of constructing international environmental law, then they, along with other procedures, acquire a role, which is related to the use of power and to legitimacy. Also, as to growing openness in global institutions at large, there may be some cause of concern. One possible worry is that when institutions such as the World Bank claim a "presumption in favor of disclosure"[151] of i.a. environmental data, this is a policy

---

change of paradigm in international environmental law from protection of environmental elements to the management of ecological processes, see Kuokkanen, T., 2000, pp. 221-236.

[149] Relating not only to environmental matters but also to stability vs. unrest in law and decision-making in other rapidly developing fields, e.g. telecommunications, biotechnology and other areas of technological innovation. For seminal works in this area where discussion started in the 1980s, and esp. on risk, knowledge utilization and expert power, see e.g. Stewart, R.B., 1981; Yellin, J., 1983; Joerges, C. & D.M. Trubek, eds. 1989; Ladeur, K-H, 1989; Beck, U., 1992; *ibid.* 1995; Further on risk, see Luhmann, N., 1993; and environmental risk and uncertainty, Ladeur, K-H, 1994; Giddens, A., 1999; and on move from instrumentalism to reflexive law, see Teubner, G., 1985, pp. 299-325; Further on environmental assessment and procedural law, Ladeur, K-H & R. Prella, 2001.

[150] For seminal literature on regime theory, see e.g. Krasner, S.D., ed., 1983; Haas, P.M., 1989; Chayes, A. & A.H. Chayes, 1990, pp. 147-164; Chayes, A. & A.H. Chayes, 'Adjustment and Compliance... 1991, pp. 280-308; Chayes, A. & A.H. Chayes, 'Compliance without Enforcement..., 1991, pp. 311-330; Gehring, T., 1990, p. 35-56; List, M. & V. Rittberger, 1992; Gehring, T., 1994; Spector, B.I. et al., 1994; Young, O., 1989; Young, O., 1990, pp. 337-346; Young, O., *On the Effectiveness of International Regimes...*, 1991; Young, O., 'The Effectiveness of ..., 1991; Young, O., 1993, pp. 431-451; Young, O., 1994; Victor, D. & A. Chayes & E.B. Skolnikoff, 1993, pp. 453-474; Keohane, R., 1994; Sjöstedt, G., B.I. Spector & W. Zartman, 1994; Werksman, J., ed., 1996.

that still does not necessarily hold any *qualitative* promise. The amount - and contents - of pertinent information that can still be withheld under various treaties is considerable, and a factor that may undermine the relevance of the data that can be made public. Furthermore, wider access to environmental information is not necessarily only a blessing; there is the fear that access creates new problems, and that those problems may be counter-productive to environmental protection. Instant communication also means pressure to make instant decisions. This in turn means less time for reflection and the consideration of alternatives, and may mean that the quality of decisions goes down. This is particularly dangerous in, say, humanitarian or environmental catastrophes where the cost, both human and other, of hasty decisions may be high.

The last chapter of this study acknowledges these worries and briefly tries to explore whether some trends in the latest international law on the environment may hold the potential of transcending "mere" reliance on technology and a "managerial ethic" and evolve to create some other, new, different or even better ethic for environmental protection and law. When the 1998 Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters[152] was concluded, this regional multilateral treaty meant a new step in the development of the whole of international law on the environment. The development towards greater openness in environmental matters now also has a human rights dimension, a shift that not only marries two areas of international law - with the conceptual doubts and practical problems that may entail -, but that may, in the best case, offer some potential for renewed responsibility for the environment. A "new ethic", born out of public access to environmental information, could come to add to or even change the way international environmental matters are perceived and dealt with. At the same time, however, anything pretentiously called "a new ethic" would have to involve renewed responsibility, for the state, certainly, but for other actors just as well.

---

[151] The World Bank, Directive on Disclosure of Information, July 1989; This citation also appears e.g. in the Draft Review of World Bank Policy on Information Disclosure, 1994, Para. 4.; and see Para. 56, Information Disclosure Consultation Home Page (as it was accessible at least until September 2000) at http://www.worldbank.org/html/pic/disclosure/index.htm; and in subsequent documents, see below ch. 4.

[152] Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, Aarhus, 25.6.1998, in force 30.10.2001. ECE/CEP/43.

1.2.2. The Structure of this Study

This study proposes to treat its topic– to trace the evolution and find the possible roles and limits of the current stress on information and openness in international environmental law – in the following way: Firstly, by tracing the **evolutionary**[153] **phases** by which the issue has developed, giving thereby the study its main structure in three substantive chapters; secondly, by discussing within each of the phases the **evolution**, **contents**, including exceptions, and **functions** of the relevant treaties, giving also each chapter some common structure; and thirdly, by assessing, to different degrees, some elements of each phase against the same three key principles of international law: **prevention, precaution and responsibility,** (either for states or more generally understood individual responsibility). This third point is thematic, not a concrete structural element, and it meshes both with the discussions on dogmatic evolution and potential functions of environmental information.

Despite the burlesque of classical juxtapositions, the extreme poles of potential arguments – never directly employed in this study – ought to be pointed out as they indicate the scale along which the topic could move: either the role of information provisions would be seen to hold formidable value, they would be crucial, the *sine qua non,* for all environmental protection and the main building block – itself substantive - of international environmental law; *or* they would be seen as ludicrous procedure,[154] mere padding on the shoulders of international law. They would augment the bulk of the law, provide simple norms on which the illusion can be built that something vital is taking shape, that progress has been made, but with little or no real value to international law at large or let alone to environmental protection. In between these two poles there is room for considerable detail and nuance.

In order to search for such detail and nuance, the study attempts to find traces of answers to the role of norms on environmental information in international law on the basis of three distinctive topics/chapters and, under those, three in-depth treaty studies. The three

---

[153] Kiss, A.C., 1976, p. 58: "...the international rules on various subjects are frequently in different stages of evolution. This is certainly the case for environmental law...".

[154] For an argument against outright cynicism, see Bodansky, D., 2000, pp. 365-366.

chapters represent the main ways in which states have gone about creating information-sharing arrangements: first, state duties to inform other states; second, supervisory information/peer review systems; and, third, rights of access to information. The developmental steps are here referred to as "phases", that is "first phase", "second phase" and "third phase" environmental information provisions. This structure in itself represents one of the contributions of this study to the state of present research, and it is possible that the way in which this topic's development has been traced could come to serve as a relevant method for other current topics of international law as well. Another main contribution of this study to the research of international environmental law lies in the combination of the three topics represented by the three "phases". They have not usually been treated as strains of the same theme, but especially peer review and supervision issues have been seen as something separate from "mere" information sharing.[155] The issue of a right of access to information again is about to experience a boom also in research, but not necessarily contrasting it in this way with state duties. The three phases overlap in many ways, they are all "in use", despite representing different temporal aspects and needs in international law and environmental protection. And, finally, they certainly do not cover all possible ways of exchanging information, for instance, eco-auditing and accounting, eco-labelling and other consumer information issues, as well as some types of consultations and unofficial meetings and discussions are left out. Nevertheless, the collective term "environmental information" is used at times, either for the sake of expediency, or more importantly, to express the idea that all the different and overwhelming numbers of ways of sharing environmental information together form a central theme in international environmental law today.

The second chapter deals with the earliest developed part of environmental information, that is, the duty of a state to inform other states of planned undertakings and particularly of accidents or imminent dangers of a trans-boundary nature. This "first phase" duty exists in

---

[155] But see Sands, P, 1995, pp. 596-628, who combines different issues of environmental information, including eco-labelling and eco-auditing, into one chapter in his textbook. In contrast to this study, which begins with the *Corfu Channel* case, Sands mentions, but gives no examples of, early treaty provisions on information about implementation of the treaty to the depository or other parties as the basis on which environmental information has since "gradually emerged as a central issue of international environmental law" (p. 596). He separates nine techniques concerning the provision and dissemination of environmental information: information exchange; reporting and the provision of information; consultation; monitoring and surveillance; notification of emergency situations; public right of access to environmental information; public education and awareness; eco-labelling; and eco-auditing and accounting; On eco-auditing, see further Sand, P.H., 1999, pp. 39-40, 363 *et seq.*

numerous multilateral and bilateral treaties, and it is very much an everyday part of international environmental cooperation, but nonetheless an "old" issue in that very little has been written about it since the after-math of Chernobyl. But despite the relative ease or straightforwardness of this, by now, well-developed duty, it raises some troubling questions. It can be admired as a corner stone of environmental law, especially treaty achievement; but it can also be argued to represent vacuous procedure and technocratic exercise with limited environmental importance. The chapter aims, first, at placing the legal development of environmental information into its right historical context, first via treaty law and then in general international law. It is therefore also physically the longest chapter as it covers the historic detail of the coming chapters as well. Secondly, in discussing the contents, exceptions and possible functions of states' information duties, the chapter also aims at finding the relationship between accident information and prevention and precaution. Thirdly, the chapter (2.3.) contains a study on the possible function or role of accident information *vis-à-vis* attribution of responsibility, and more specifically on the consequences of a failure to inform in the light of the experience of the Chernobyl accident. This is meant to cast some light on one of the central weaknesses of international law, namely that of how states have avoided developing state responsibility. Not only did the accident and ensuing discussions on the role of information for responsibility only marginally strengthen the principle, but it is argued that this weakness in the practice of resorting to state responsibility was the breeding ground for softer forms of checks on state behaviour. Section 2.3. is thus meant to function as the first breaking-point or mile-stone in tracing the legal development of environmental information.

In the next "phase", some of the main efforts on the normative level have by states been put into creating procedural norms for international environmental management and accountability through peer review and supervision/control/monitoring/verification. These are often part of so-called non-compliance procedures, which may be seen as concrete answers to the need to find alternatives to state responsibility. Different supervisory procedures, and more specifically the most abundant form of those, namely reporting procedures found in treaties, are the object of study in Chapter 3. The chapter discusses the contents and possible functions (exceptions do not appear to treaty-specific and pre-determined reporting obligations in the sense that they do to more general state duties or individual rights) to reporting obligations, and aims at assessing their relationship to

prevention and precaution. Reporting under environmental treaties seems to be the practical backbone of a managerial approach to environmental protection. The compilation of reports is the everyday work of thousands of civil servants around the globe, and the reports are dealt with by treaty bodies and sometimes made available to the general public. They may bring valuable knowledge about state behaviour and the environment, they may function as checks on state accountability, but just as well it seems, the argument could be that reporting obligations are the epitome of lame motions of "control" over complex and contradictory issues.

In order to trace some arguments for this discussion on the value of supervisory mechanisms for the compilation of environmental information, Chapter 3 incorporates a more detailed study dealing with one area of environmental law that offers a good "average" example of how most treaties deal with the issue of self-imposed peer control. The study *Information and the Waste Trade: An African Success Story?* outlines the evolution of trans-boundary waste trade from an issue of control and management to one of total ban. In doing so, it also attempts to shed some light on the role of information sharing and supervision in the process of this legal development, and to give some indications as to whether the information provisions have been of real importance. The study is meant to function as a second breaking-point or mile-stone on the road to openness: it points towards the indirect instrumental value of information provisions but also their weakness as guarantors of stronger environmental protection measures and the risks such soft methods present for responsibility.

Chapter 4 moves on to the "third phase", the most recent development in the area of environmental information, namely that of access by individuals and groups of individuals to environmental information and public participation. This moves the subject away from environmental law and partly into human rights law. Since the advent of this topic in the early 1990s it has been an issue of principled debate between environmentalists and human rights activists whether this development is beneficial or even detrimental to the cause of environmental protection, i.e., whether it opens new windows of opportunities or whether it is an inherently anthropocentric and therefore counterproductive way of confusing the aim of environmental protection. Rather than venturing into the underlying philosophical questions connected to this debate, the issue will be examined with the same tools that

have guided the chapters on information duties and supervisory procedures. The contents, "functions" and exceptions to rights of access are treated with a view to finding out how, if at all, access to information relates to the principles of prevention, precaution and ultimately some broadened notion of responsibility. Juxtaposed are the questions whether the recent trend towards better access to environmental information influences the whole area towards something of a new culture of openness or whether it creates new problems that could come to make the development a disappointment for environmental protection. Again a more detailed treaty study is included here to deal with efforts under the ECE Aarhus Convention and within European Community law to create international legal tools for the enhancement of access at a national and regional level to environmental information and decision-making. But this time the whole chapter, not only the treaty-study, points towards a new mile-stone: the *present* is a breaking-point, a new phase whose outcome is yet unknown.

The first two detailed treaty studies cut across different environmental media, acting as an illustration of how traditional international environmental law has been both constructed and studied. The first study covers industrial and nuclear accidents, and their possible repercussions for, *inter alia,* the global atmosphere and long-range trans-boundary air pollution. The second study, which deals with waste trade, has bearings on both soil and water protection and protection of the marine environment. Where the first case study deals with issues that still to some extent bear witness of an old East-West divide, the second study strongly emphasises the South-North dimensions of environmental law. These divides are meant to be recognitions of, rather than exhaustive accounts for, the numerous economic, cultural and other factors that make global environmental protection such a delicate matter. The third study moves beyond traditional environmental media as such, but it brings out another great divide, namely the role of regional rather than global arrangements in international law. The studies deal with treaty-law, but the chapters introducing the role of the various types of environmental information obviously also draw on other sources of international law, including instruments of soft law, and the possible binding character of specific norms, rules and principles, play a major role in an overall assessment of the role of information in environmental law. Questions common to each of the in-depth treaty studies include whether the contracting parties have fulfilled their self-imposed procedural obligations of information sharing and mutual control and what some

of the success stories and failures may be. Under the first and third phases of legal development, this includes searching for exceptions and limits to information duties and rights, be they related to security, defence, personal data, intellectual property or some other factor.

The final Chapter 5 attempts to draw, on the basis of Chapters 2, 3 and 4, some concluding remarks about the current state of environmental information in international law. The treaty studies and discussions surrounding them are used to try to show whether the massive development of different information sharing schemes are indications of a marginalized role of international law today or whether, on the contrary, international legal norms on more openness may have a constructive role to play for better environmental protection. The overall question whether the various technocratic (e.g. accident notifications) and managerial methods (e.g. both accident notifications and reporting) show any evidence of being at "the cutting edge" of international environmental law is assessed and contrasted to the potential offered by rights of access to environmental information. This study is limited in time: it mainly covers the legal development of environmental information provisions in the last three decades. The actual writing of this thesis was concluded in the Spring of 2002. This means that the outcome of the World Summit on Sustainable Development at Johannesburg is not part of the study; it only receives some tentative reference.

2. FROM STATE DUTIES TO INFORM...

2.1. Introduction

Preventing the occurrence of serious environmental accidents is a priority issue for most states, as evidenced by the massive and successful efforts to prevent accidents related to the so-called "Y2K" or "millennium bug" problem.[156] Yet accidents continue to happen.[157] Risk[158] as an element of technological activity will not disappear; therefore, it is frequently argued, it must be managed.[159] It is especially in those areas of technological activity where the probability of a transboundary accident may be low, but where the effects are of enormous consequence to the environment if an accident occurs,[160] that the strongest

---

[156] This chapter is based on and partly coincidental with Nordström, N., 2001, and see also *ibid*, 1996; On the millennium bug, see e.g. OECD Working Group on Chemical Accidents meeting in Paris 2.12 1998 to discuss prevention of the Y2K problem, on chemical installations, http://www.oecd.org/ehs/y2k/index.htm; the WHO international chemical safety advisory on Y2K at http://www.who.int/ifcs/y2k-advisory.htm; 41(2) *IAEA Bulletin*, 1999; and in the EU context, from a wider economic system point of view, see http://www.ispo.cec.be/y2keuro/index.html.

[157] References are abundant. On occurrences of industrial and other human-made accidents see first e.g. Ellis, D., 1989; Woodliffe, J., 1990, p. 107-109; Myers B. & P. Read, 1992, pp. 197-200; and see Institute for Systems Engineering and Informatics, Community Documentation Centre on Industrial Risk: *Review of Environmental Accidents and Incidents*, 1992, CDCIR 776-Dkb1-IV.3; United Nations Environment Programme, United Nations Centre for Urgent Environmental Assistance, *Report: Environmental Emergencies: a Review of Emergencies & Disasters Involving Hazardous Substances over the Past Ten Years*, volumes I, II, 1.10.1993 (reports after 1994 under UNEP-OCHA Joint Environment Unit); and see http://www.diesis.com/cemec/emerchem/industrial_accidents_of_the_past.htm, (1998) for a list of chemical accidents in the 20th century; and for links to various reports on accidents or near-misses up to 2002 see the United States Chemical Safety and Hazard Investigation Board, http://www.chemsafety.gov/chemlinks; and on accidents see also the Technical Secretariat of the OPCW at http://www.opcw.nl/chemhaz/chemacci.htm; and see the European Commission Major Accident Hazards Bureau (MAHB) and the continuously up-dated Major Accident Reporting System (MARS) of the EU Member States at http://mahvsrv.jrc.it/mars; On recent chemical safety issues related to the ILO look at http://www.ilo.org/public/english/protection/safework/chemsftv/index.

[158] On the complex notion of risk and related concepts, see Shrader-Frechette, K.S., 1991, pp. 3-13, 66-74; Renn, O., 1992, pp. 53-79; Luhmann, N., 1993; Beck, U., 1995; Risk essentially denotes a certain probability of a hazard, see Handl, G., 1989, p. 106. See also the World Commission on Environment and Development (WCED), *Our Common Future*, 1987, p. 323; Ellis, D., 1989; See Charbonneau, S., 1989, pp. 269-284; And see OECD's Chemical Accident Risk Assessment Thesaurus (CARAT) at http://www.oecd.org/EHS/CARAT, 2002; For a practical example of how widely the notion of risk may be understood, see http://www.riskworld.com/ , and on concrete risk assessments see e.g. http://www.esd.ornl.gov/programs/ecorisk/ecorisk.html.

[159] *See Yokohama Conference Report* 1994, p. 41; see also ILC: Rao, *Third Report;* On risk and its management, see Liberatore, A., 1999; see also Malmö Ministerial Declaration, First Global Ministerial Environment Forum, 31.5.2000, at http://www.unep.org/malmo/malmo_ministerial.htm: "[W]e can ensure environmental security through early warning".

possible safeguards of communication and co-operation are argued to be needed. The generic term "hazard management",[161] and particularly its implications, prevention and control, or preparedness and response, is considered central in the context of accident information. While pollution[162] or harm[163] prevention is the main objective of traditional international environmental concerns, response includes the mitigation and minimization of the consequences of an accident that has already occurred. Thus, information on a particular potentially - or factually - polluting event is perceived as one initial form of response to and mitigation of the situation that the event might create or has already created. Accident information includes both environmental aspects and humanitarian considerations.

This chapter addresses the current position in international law of the state duty to notify[164] or inform[165] with regard to human-made[166] technological accidents[167] of a potentially

---

[160] On the relationship between international environmental and nuclear law, and risk and precaution, see Granet, M-B, 2001.

[161] For seminal writing in public international law, see Handl, G., 1989, p. 108; see also Bothe, M., 1980, pp. 395-396.

[162] For one of the most frequently used definitions of pollution, see e.g. Art. 1(1)(4) of the LOSC.

[163] For one understanding of "significant transboundary harm", see draft articles 1-3 on prevention in *Report of the International Law Commission on the Work of Its Fiftieth Session*, 1998, GAOR A/53/10, p. 18-19.

[164] See Dominick, M. F., 'Notification' in *Encyclopedia of Public International Law* 9, p. 288. In the law of war the term, refers, *i.a*, to the declaration of war or neutrality or the laying of submarine contact mines, that is, in confirmation of an already existing situation, see Second Hague Peace Conference, 18.10 1907, Conventions III and VIII; in the law of the sea the coastal state has, for example, the duty to notify all potential hazards to navigation of which it is aware in its territorial waters, see Article 24, United Nations Convention on the Law of the Sea (LOSC), Montego Bay 10.12. 1982, in force 16.11.1994 and see the *Corfu Channel* case (1949), *ICJ Reports*, p. 4; in human rights law the term often refers to situations where a contracting party has a right to derogate from its treaty obligations in times of emergency, see Article 15 of the Convention for the Protection of Human Rights and Fundamental Freedoms, Rome 4.11.1950, in force 3.9.1953; and see Rosas, A., 1993, p. 170.

[165] In the context of transboundary environmental accident information (post-accident as opposed to pre-accident or pre-pollution information) several terms are used to express the same or closely related concepts: early-warning, notification and information. For instance, in nuclear law, the terms are used to denote separate temporal aspects of risk communication. Notification is understood as a more initial means of communication (or warning), whereas information follows upon notification providing further data. Yet some other treaties confusingly use the term "report" for accident information. For the purposes of this study, the generic term will be information, and the other terms are understood as forming part, both temporally and substantially, of the larger *process* of accident information.

[166] Despite the difficulties inherent in finding a meaningful delimitation of the concepts "human-made" and "natural", natural catastrophes remain primarily outside of the scope of this study. Further on "Na-techs" see *Report of the World Conference on Natural Disaster Reduction*, Yokohama, 27.5.1994, A/CONF.172/9 (cited as *Yokohama Conference Report*, 1994), p. 36-37; see also *The International Aspects of Natural and Industrial Catastrophes*, The Centre for Studies and Research in International Law and International Relations, 1995, Hague Academy of International Law.

transboundary character. In doing so, other types of state duties to inform will be discussed and contrasted, particularly the duty of states to inform on planned undertakings. This issue is examined in the context of the **a) evolution of treaty law**, and perhaps more importantly, in general international law. The central questions are do states owe each other an accident information duty, and if they do, what are its **b) contents**, its qualitative and quantitative criteria? Which states are under the information duty, in which situations, and to whom do states owe the duty? What exceptions apply to the duty to inform? What **c) functions** could environmental accident information have for environmental protection and/or law? How, if at all, does it relate to prevention and precaution? And finally, also in relation to possible functions, if states are bound by a duty to inform of accidents, what are the legal consequences of a failure to inform?

2.2. The Duty to Inform in Treaty Law and General International Law

2.2.1. Treaty Provisions

It is first necessary to turn to treaty law before a discussion on customary law, not least because of the implications that the treaty provisions might have for the existence of the duty in general international law. The treaty law pertaining to nuclear energy and marine pollution seem to be the two areas with the most far-reaching provisions on accident information, and they therefore merit closer examination. Neither of these areas were quite the first to develop accident information schemes, however. Among the earliest internationally-regulated accident response fields, the prevention of forest fires is noteworthy.[168] Forest fires, which often fall into both the category of human-made and

[167] The terminological and consequent legal problems relating to nearby concepts, such as "catastrophe", "emergency" and "disaster", are acknowledged. In order to avoid undue complexity the generic term in this study is "accident". It is meant to include such sudden technological incidents of large proportions which entail loss or damage to human life or health, property or the environment, and which at least potentially have transboundary effects. The risk of an occurrence of an accident may be either high or low, but it must reach certain amplitude. "Emergencies" may result from "accidents" and are in many documents referred to as the object of the information duty. Other writers and many international documents may use the terms in different ways; On the theory of "normal accidents", see Perrow, Ch., 1984; On this and on so-called "high-reliability" theory, see Liberatore,A. 1999, pp. 21-23.

[168] Today the prevention of forest fires is also largely connected to the prevention of the so called 'greenhouse effect'. For an early document making this connection see, e.g., EC Council Resolution of June 21, 1989 on the Greenhouse Effect and the Community (Article 8). See further Bourrinet, J., 1992, see especially pp. 167-171 for the Charter of Aix-en-Provence, World Conference on Wildland Fires, 14.12.1991.

natural disasters, are usually regulated by bilateral agreements to protect frontier areas.[169] Such agreements usually contain provisions on information, both preventive and accident-related.[170]

Areas of international environmental law where accident information is particularly important are transport of hazardous wastes, which will be returned to in a treaty study in Chapter Three,[171] industrial accidents,[172] and international watercourses.[173] In the

---

[169] France-Spain: Agreement on French and Spanish Fire Emergency Services, 14.7.1959; Argentina-Chile: Agreement concerning the Protection of Frontier Forests Against Fire, 29.12.1961; Canada-United States: Agreement Governing Mutual Co-operation in the Detection and Suppression of Forest Fires, 1.6.1971; Canada-United States: Arrangement on Mutual Assistance in Fighting Forest Fires, Ottawa, exchange of notes 4.5.1982, in force 7.5.1982; See further Brown Weiss, E., 1986, p. 146; and Brown Weiss, E., 1989, pp. 76-79, 229.

[170] The environmental information duty has developed considerably more slowly in the area of humanitarian law. Although information on the location of mines and other explosive devices certainly has the side-effect of also preventing environmental damage, an express environmental accident information duty does not yet exist within the treaty-based law of war or humanitarian law; See the Hague Convention VIII Relative to the Laying of Automatic Submarine Contact Mines, the Hague, 18.10.1907, in force 26.1.1910 (Article 5). See also the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to be Excessively Injurious or to have Indiscriminate Effects, New York, 10.4.1980, in force 2.12.1983 (Protocol II, Article 7) (but see later Protocol negotiations); See the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction, Paris, 14.2.1993, in force 29.4.1997; See also Goldblat, J., 1985, pp. 77-83. The earlier envisaged development of a so-called "Fifth Geneva Convention" did, however, include a provision on information about damage to the environment of neutral states or global commons, see Plant, G., 1992, pp. 3-36, 43-62.

[171] The United Nations Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Basle, 22.3.1989, in force 24.5.1992; Fourth A.C.P.-E.E.C. Convention, Lomé, 15.12.1989, in force 1.9.1991; Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes Within Africa, Bamako, 29.1.1991, in force 22.4.1998.

[172] See OECD, Council Decision on the Exchange of Information concerning Accidents Capable of Causing Transfrontier Damage, 687th session, 8.7.1988. C(88)84(Final); See the Convention on the Organization for Economic Co-operation and Development, Paris, 14.12.1960, in force 30.9.1961. See Article 5(a) establishing the binding character of OECD decisions. Members can abstain from voting and thus avoid the binding character of a certain decision (Article 6). Generally, see Smets, H., 1991, pp. 459-460; And in the EC see Major-accident Hazards Bureau (MAHB), Major-accident Reporting System (MARS) and the Community Documentation Centre on Industrial Risk (CDCIR): Seveso Directive: Council Directive of 24 June 1982 on the Major Accident Hazards of Certain Industrial Activities, 82/501/EEC, amended by Directives 87/216/EEC; 88/610/EEC and 91/692/EEC, and replaced by new "Seveso II" Directive of 9 December 1996, 96/82/EC, in force 3.2.1997, replaced the original Directive and was mandatory at the latest as of 3.2.1999; generally see Prieur, M., 1989, pp. 261-268; Barratt, R. and H. Enmarch-Williams, 1994, pp. 195-199; Nordic Convention on Transfrontier Co-operation in Cases of Accidents for the Prevention or Limitation of Damage to Human Life, Property or the Environment, Stockholm, 20.1.1989, in force 1.3. 1992; further on Seveso Directive and Nordic Convention, see *infra* ch. 4.2.A.c; Convention on the Transboundary Effects of Industrial Accidents, Helsinki, 17.3.1992, in force 19.4.2000; ILO Convention 174: Convention concerning the Prevention of Major Industrial Accidents, Geneva, 22.6.1993, in force.

[173] See e.g. Convention on the Protection of the Rhine against Chemical Pollution, Bonn, 3.12.1976, in force 1.2.1979; Convention Concerning the Protection of the Rhine against Pollution by Chlorides, Bonn, 3.12.1976, in force 5.7.1985; both to be superseded by the new Convention on the Protection of the Rhine, Berne, 12.4.1999 (Art 5(6)); Convention on the Protection and Use of Transboundary Watercourses and

prevention of transboundary air pollution[174] and pollution of the global atmosphere,[175] however, the accident information duty plays a less central role.[176]

a) Nuclear energy

The area of the peaceful uses of nuclear energy has seen the most dramatic development of treaty law and practice pertaining to accident information and response. The Chernobyl accident in 1986 gave rise to rapid international co-operation for the legal regulation of future large-scale accidents, most notably through the 1986 IAEA Conventions on Notification and Assistance.[177] In accordance with Article 1, which together with Article 2 includes the main contents of the Notification Convention, the Convention applies:

International Lakes, Helsinki, 17.3 1992, entry into force 6.10.1996; Belgium-France-Netherlands: Agreements on the Protection of the Rivers Meuse and Scheldt, Charleville Mezieres, 26.4.1994, not in force; Cambodia-Laos-Thailand-Vietnam: Agreement on the Co-operation for the Sustainable Development of the Mekong River Basin, Chiang Rai, 5.4.1995, entry into force 5.4.1995; United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses, New York, 21.5.1997, not in force. See also ILC Draft Articles on the Law of the Non-navigational Uses of International Watercourses, 1994, A/CN.4/L.489; *Report of the International Law Commission on the Work of Its Forty-sixth Session*, 1994, GAOR A/49/10, pp. 195-326; See McCaffrey, S. & M. Sinjela, 1998.

[174] Convention on Long-Range Transboundary Air-Pollution, Geneva, 13.11.1979, in force 16.3.1983; Protocol to the 1979 Convention on Long-range Transboundary Air Pollution on the Reduction of Sulphur Emissions or their Transboundary Fluxes by at least 30 per cent, Helsinki, 8.7.1985, in force 2.9.1987; Protocol to the 1979 Convention on Long-range Transboundary Air Pollution concerning the Control of Emissions of Nitrogen Oxides or their Transboundary Fluxes, Sofia, 31.10.1988, in force 14.2.1991; Protocol to the 1979 Convention on Long-range Transboundary Air Pollution on the Control of Emissions of Volatile Organic Compunds or their Transboundary Fluxes, Geneva, 18.11.1991, in force 29.9.1997; Protocol to the Convention on Long-range Transboundary Air Pollution on the Further Reduction of Sulphur Emissions, Oslo, 14.6.1994, in force 5.8.1998; Protocol to the 1979 Convention on Long-range Transboundary Air Pollution on Persistent Organic Pollutants, Aarhus, 24.6.1998, not in force; Protocol to the 1979 Convention on Long-range Transboundary Air Pollution on Heavy Metals, Aarhus, 24.6.1998, not in force; Protocol to the 1979 Convention on Long-range Transboundary Air Pollution to Abate Acidification, Eutrophication and Ground-level Ozone, Göteborg, 30.11.1999, not in force.

[175] Vienna Convention for the Protection of the Ozone Layer, Vienna, 2.5.1985, in force 22.9.1988; Montreal Protocol on Substances that Deplete the Ozone Layer, Montreal, 16.9.1987, in force 1.1.1989; amended, by Decision II/2 at the Second Meeting of the Parties to the Montreal Protocol, London, 29.6.1990, entry into force 10.8.1992; amended and adjusted, Copenhagen, 25.11.1992, in force 22.9.1993 amended, Montreal, 1997; amended, Beijing, 1999; United Nations Framework Convention on Climate Change, Rio de Janeiro, 4.6.1992, in force 21.3.1994.

[176] See also Article II of the Agreement Concerning Co-operation in the Quarantine of Plants and their Protection against Pests and Diseases, Sofia, 14.12.1959, in force 19.10.1960; Article 14(1)(d) of the United Nations Convention on Biological Diversity, Rio de Janeiro, 5.6.1992, in force 29.12.1993.

[177] Convention on Early Notification of a Nuclear Accident, Vienna, 26.9.1986, in force 27.10.1986; Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, Vienna, 26.9.1986, in force 26.2.1987; As of June 2001, the Notification Convention has 83 states Parties and the Assistance Convention has 79 Parties. The FAO, WMO, and WHO are also Parties to both Conventions. On the drafting history of the two IAEA Conventions see e.g., Kiss, A.C., 1986, pp. 146-147; Adede, A.O., 1987, pp. 1-13,

> in the event of any accident involving facilities or activities of a State Party or of persons or legal entities under its jurisdiction or control, [...] from which a release of radioactive material occurs or is likely to occur and which has resulted or may result in an international transboundary release that could be of radiological safety significance for another State.

The Notification Convention is broad in scope in that it applies to both private and state owned nuclear activities. Article 1, which refers to "persons or legal entities under the jurisdiction or control" of a state party, reflects the realization that strong supervision of private activity is a prerequisite for the safe use of nuclear energy. Left open by the wording of Article 1 are the criteria that should determine when a situation is of "radiological safety significance". No objective thresholds have been agreed upon; any reaction to a radiological release is left to the discretion of the source state - and international guidelines. A 2001 IAEA meeting under the Notification and Assistance Conventions noted that "determining what an accident is in the sense used in the Convention is left to the precautionary judgment of the State in their exercise of due diligence".[178]

Without giving a clear definition of a "nuclear accident", the Notification Convention covers a wide array of activities related to the use of nuclear energy. These are dealt with in Article 1(2) and include nuclear reactors, fuel cycle facilities, waste management facilities, transport and storage of nuclear materials, the various uses of nuclear materials for agriculture, industry, medicine or science and research, and the use of radio-isotopes for power generation in space objects. Article 3 further stipulates that:

> with a view to minimizing the radiological consequences, States Parties may notify in the event of nuclear accidents other than those specified in article 1.

During treaty negotiations, political opposition to the inclusion in the text of any reference to military uses of nuclear energy was strong among some of the major nuclear weapon powers.[179] Some other states, on the other hand, expressly demanded the inclusion in the

---

130-135; Cameron, P., 1988, pp. 19-22; Sands, P., 1988, pp. 3-4; Stuckey, D.C., 1988, pp. 699-700; Lang, W., 1988, pp. 9-18; and see Granet, M-B, 2001, pp. 790-795.

[178] See *Report of the First Meeting of the Competent Authorities Identified under the Convention on Early Notification of a Nuclear Accident and Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency*, IAEA, Vienna, 18-22.6.2001, para. 11.

text of military uses of nuclear power.[180] Article 3 was a compromise, followed by unilateral declarations by five nuclear weapon states to voluntarily notify of any accidents due to military uses of nuclear materials,[181] and later statements by the Parties have affirmatively expressed the idea that accidents due to military nuclear testing and nuclear weapons could be covered under Article 3.[182]

The major substantive content of the Notification Convention lies in Article 2, which, notably using the word "shall", establishes the clear duty for the Parties to the Convention to provide other states with information in the case of a nuclear accident with actual or potential transboundary repercussions. Here it is interesting to note that the Convention separates between "notification" and "information":

> In the event of an accident in article 1 [...], the State Party referred to in that article shall:
>
> (a) forthwith notify, directly or through the International Atomic Energy Agency (hereinafter referred to as the 'Agency'), those States which are or may be physically affected as specified in article 1 and the Agency of the nuclear accident, its nature, the time of its occurrence and its exact location where appropriate; and
>
> (b) promptly provide the States referred to in subparagraph (a), directly or through the Agency, and the Agency with such available information relevant to minimizing the radiological consequences in those States, as specified in article 5.

Thus, in the context of this Convention, to "notify" means to let someone know that an accident has occurred, and to "inform" means to provide further data. The greatest strength

---

[179] Particularly the United States; On opposition to the inclusion of military installations, see e.g., McBryer, S., 1986, p. 314; Stuckey, 1988, pp. 704-705; Moser, B., 1989, p. 13; But *contra*, in the opinion of the Chairman of the Group of Governmental Experts that drafted the Convention, van Gorkom, the list implicitly also included military nuclear facilities: "[t]he remarkable fact that all five nuclear power States have accepted the legal obligation to notify and to give detailed information on all accidents within the broad framework of the nuclear fuel cycle, implicitly including military nuclear facilities, and the fact that on account of its article 3 and subsequent formal statements by the nuclear weapon States the convention also covers, for all practicable purposes, accidents resulting from nuclear weapons and nuclear testing, constitute a breakthrough in the field of arms control and disarmament doctrine which may be of great significance for future negotiations", see van Gorkom, L.H.J.B., p. xiv, in Preface to Adede, A.O., 1987; *Cf.* Articles 34-35 of the Treaty Establishing the European Atomic Energy Community, Rome, 25.3.1957, in force 1.1.1958.

[180] Kiss, A.C., 1986, p. 149, n. 44: E.g., Finland, France, Ireland and Luxembourg.

[181] McBryer, S., 1986, p. 318.

[182] *Report of the First Meeting of the Competent Authorities...*, IAEA, Vienna, 18-22.6 2001, para. 12, see *supra.*

of the Notification Convention seems to lie in its relative specificity. The information to be given in case of a nuclear accident is enumerated in Article 5(1):

> (a) the time, exact location where appropriate, and the nature of the nuclear accident; (b) the facility or activity involved; (c) the assumed or established cause and the foreseeable development of the nuclear accident relevant to the transboundary release of the radioactive materials; (d) the general characteristics of the radioactive release, including, as far as is practicable and appropriate, the nature, probable physical and chemical form and the quantity, composition and effective height of the radioactive release; (e) information on current and forecast meteorological and hydrological conditions, necessary for forecasting the transboundary release of the radioactive materials; (f) the results of environmental monitoring relevant to the transboundary release of the radioactive materials; (g) the off-site protective measures taken or planned; (h) the predicted behaviour over time of the radioactive release.

The list is comprehensive, and further strengthened by a provision in Section 2 on supplementary information at appropriate intervals. However, the information obligation is also followed by a weakening restriction in Section 3 of Article 5:

> Information received pursuant to sub-paragraph (b) of article 2 may be used without restriction, except when such information is provided in confidence by the notifying State Party.

Arguably, this does not affect the initial *notification* obligation, but only further *information*. The clause allows a notifying state to restrict the use of classified information, for instance concerning national security or defence, and it provides for a way of escaping the central purpose of the treaty, that is, to minimize the transboundary consequences of a radiological release.[183] Some other flaws can also be found in the Convention, particularly ones connected to vagueness in the text. One ambiguity lies in what might also be understood as a point of strength, namely the reference, in Article 1, to a release that occurs or is *likely to occur*. This wording leaves open the question when, that is, at which threshold, an accident must be notified internationally, a fact which leaves room for misuse. In the most positive scenario, this uncertainty works towards the rapid notification also of smaller incidents, bringing the Convention as close to the notion of precaution as it, given the *post facto*-character of the entire notion of accident notification and information, can

[183] According to Stuckey, who sees a limitation only to the peaceful uses of nuclear energy, "... the Convention's value will be measured in direct proportion to the *nonuse* of the confidential information exception in Article 5, Section 3", Stuckey, D.C., 1988, p. 709; *Cf.* to Article 6 in the Assistance Convention.

possibly come. State practice under the Convention appears to follow compliance with this stricter interpretation of the threshold level for notifications.[184]

The use of the word "forthwith" in Article 2 leaves room for varying interpretations as to the timeframe within which a notification must be made. Information technology today allows for virtually instantaneous communications all over the world, but "forthwith" could be interpreted to mean a reaction only within several days. The International Commission on Radiological Protection (ICRP) has defined three different time phases of a nuclear accident.[185] The early phase relates to the very first few hours after an accident, the intermediate phase begins after a few hours and lasts for a few days, and the recovery phase may last for many years depending on the substances released. Any measures in protection of the health of the affected population can only be taken during the first and second phases, and this is why the wording of Article 2 may be criticized for lack of precision.

Another example of a possible weakness in the Convention is the false assumption that may rise from the enumeration in Article 5 of the contents of accident information: Stuckey has pointed out that it might be wrong to conclude that the specificity of information given guarantees adequate emergency response.[186] Many developing countries and other countries with limited know-how about nuclear technology would not necessarily benefit even from the most elaborate information.[187] The successful implementation of the Convention

---

[184] See e.g. *Lessons Learned from Accidents in Industrial Irradiation Facilities,* IAEA, STI/PUB/1015, 1996; *Lessons Learned from Accidents in Industrial Radiography,* Safety Reports Series No. 7, IAEA, STI/PUB/1058, 1998; and for reports on radiological accidents at Nezvizh, 1991 (death due to fault-clearance at sterilisation facility); Hanoi, 1992 (personal injury at electron accelerator facility); Tammiku, 1994 (theft of radioactive waste resulting in death and injury); San José, 1996 (overexposure of radiotherapy patients resulting in death and injury); and in relation to the major accident at Tomsk, 1993 (widespread contamination after accident at plutonium extraction facility), see further at http://iaea.or.at/worldatom/publications/98pubs/nrsar98.html; *Contra,* on the other hand, there does not seem to be public information readily available on examples of failures to notify of smaller accidents.

[185] Protection of the Public in the Event of Major Radiation Accidents: Principles for Planning, 40 *Annals of the ICRP*, No. 2 (1984), p. 3.

[186] Stuckey, D.C., 1988, pp. 707-708.

[187] Article 8 of the Convention pertains to situations where a non-nuclear state party to the Convention borders a nuclear state not party to the Convention. Article 8 reads:

> The Agency shall, in accordance with its Statute and upon a request of a State Party which does not have nuclear activities itself and borders on a State having an active nuclear programme but not Party, conduct investigations into the feasibility and establishment of an appropriate radiation monitoring system in order to facilitate the achievement of the objectives of this Convention.

continues to be dependent on the funds allocated for the purpose of helping those states that do not have the necessary means for emergency response. [188] On the other hand, it is also dependent on the success of those ongoing common efforts that aim at strengthening the practical functioning of the notification and assistance system. The Emergency Notification and Assistance Technical Operations Manual (ENATOM), which was initiated in 1987, has to this purpose been up-dated, with the 2000-version in use and a 2002-version under revision. ENATOM functions on a voluntary basis, and it endorses, besides the two Conventions' obligations, also the International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety or Sources (BSS) and a draft Safety Requirement for Preparedness and Response for a Nuclear or Radiological Emergency. Integrating these standards is seen as a step towards greater harmonization of emergency preparedness and response on the international level.

The Notification Convention is intended to function on a firm institutional basis, with the IAEA at the centre of the system. The obligation to notify and inform also clearly lies with the IAEA, not only the states. According to Article 4, the IAEA is to relay the receipt of a notification of a nuclear accident to any state affected or potentially affected. Concerning further information, however, it is to be conveyed by the IAEA only upon request, thus shrinking the obligations imposed on the Agency. The reference in Article 8 to aid to non-nuclear states also assigns further tasks to the IAEA, as the prime responsibility for such assistance would lie with the organization.

Article 7 lays out the obligation of the states parties to have a national authority on continuous alert for the possible communication of risk information, and to keep the IAEA and the other Parties up-to-date on any changes in such domestic response mechanisms. The burden of this obligation is shared with the IAEA in that it is the Authority's responsibility to keep a list of all national authorities and points of contact and to disseminate information about these arrangements among its member states and relevant international organizations. In this respect the implemention of the Convention is continuous and on-going, involving aspects of co-ordination and co-operation between

[188] E.g. on capacity building in Africa, see under the African Regional Cooperative Agreement for Research, Development and Training Related to Nuclear Science and Technology, 1990, in force, http://www.afra-iaea.org/; *Cf.* to technical and expert assistance given by the IAEA under the Nuclear Safety Convention in 2002 to e.g. Georgia to locate and recover sources of "lost" radioactive material in the country, http://www.iaea.org/worldatom/Press/News/georgia_radsources03.shtml.

organizations, communications systems, including updating technology, exercises between national authorities, continuous evaluations and improvements of the systems in use, and so on.[189]

The Notification Convention must be read in conjunction with the Assistance Convention, as well as regional and bilateral agreements, as the two IAEA Conventions go hand-in-hand: no assistance is possible without the prior notification of and information about a potentially dangerous situation.[190]

Although the Notification Convention in Article 6 lays down the duty of the informing state to respond to any requests for consultations that an affected state might make, any substantive action towards the minimization of adverse effects would be taken under the Assistance Convention. This happened in connection with the radiological emergency caused by Caesium-137 in Goiania, Brazil on September 19, 1987. The IAEA was notified by Brazil about the situation, and subsequently Brazil received help from other countries under the Assistance Convention.[191] One weakness of the Assistance Convention is, however, that it does not impose a duty on the states parties to render or accept assistance, it merely obliges made by to "react promptly" to any request for assistance that another country in need. The Convention, which aims at minimizing administrative hurdles in assistance situations, also creates some confusion as to responsibility for harm borne during assistance efforts: it has been criticized for protecting too strongly the assisting state, which might in some cases be the same state that originally caused the accident. Reimbursement

---

[189] See *Report of the First Meeting of the Competent Authorities* ..., IAEA, Vienna, 18-22.6.2001.

[190] One particularly interesting question arises from the Assistance Convention, which applies not only to nuclear accidents but also to radiological emergencies. While the term nuclear accident is understood in the same way as in the Notification Convention, lack of clarity surrounds the notion "radiological emergency". It can be understood to refer to a situation that is less critical than an accident in that it would not have caused or would probably not cause damage or injury, see Moser, B., 1989, p. 14; In contrast to an accident, it could perhaps also be seen as a situation that is caused knowingly or with substantial risk-taking involved. In such a case a radiological emergency might have its reasons in military activity connected to nuclear weapons or the testing of nuclear weapons, see Kiss, A.C., 1986, p. 150 (*Cf.* also to radiological weapons' use in international law). If interpreted in this way, the Assistance Convention highlights the above-discussed issue of the scope of application of the Notification Convention. The implication would be that indeed only accidents, as opposed to "radiological emergencies", are covered by the obligation of states to notify affected Parties. There is however no public information readily available on evidence that states would have interpreted the Assistance Convention as a limitation of the scope of the Notification Convention.

[191] Brown Weiss, E., 1989, p. 187; But, it is not entirely clear whether the help offered to Brazil in 1987 was "voluntary" rather than based on the express treaty obligation.

of assistance costs to the accident-creating state has been considered to be problematic.[192] Efforts at improving the working methods and functioning the IAEA's Emergency Response Centre (ERC) as a focal point for the Emergency Response Network (ERNET), as well as co-operation with national authorities show, despite some continuing harmonization and co-ordination problems, that the parties to the Convention have a degree of commitment to assistance.[193]

The Nuclear Safety Convention, concluded in 1994 under the auspices of the IAEA, is not primarily intended to further the information duty, but rather to promote other larger preventive and mitigating issues related to nuclear safety.[194] In direct relation to information, the Convention provides however for the establishment of national regulatory bodies charged with, *inter alia*, the establishment of safety requirements and regulations. Article 19(vi) refers to the duty of the holder of a licence to report to the regulatory body in a timely manner on incidents significant to safety.[195]

Regional, mostly bilateral, agreements on prevention of pollution from nuclear installations can roughly be divided into agreements on exchange of accident information or radiation monitoring data; emergency assistance treaties;[196] treaties on installations in border

---

[192] Sands, P., 1995, p. 476.

[193] See *Report of the First Meeting of the Competent Authorities...*, IAEA, Vienna, 18-22.6.2001, para. 39-41.

[194] Nuclear Safety Convention, Vienna, 20.9.1994, in force 24.10.1996; As of 15.4.2002 53 states and the EU are Parties to the Convention, representing 428 out of 448 nuclear reactors worldwide. Generally on the Convention and for documents from e.g. review meetings, see at http://www.iaea.org/ns/nusafe/safeconv.htm. *Cf.* also to the IAEA Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, Vienna, 29.9.1997, in force 18.6.2001, which relates i.a. to siting, in Articles 6 and 13, and to public information on safety issues, in the Preamble.

[195] See further Szasz, P.C., 1994; Generally on nuclear safety and international environmental law, de La Fayette, 1993, pp. 31-69.

[196] In 1963, the Nordic countries were the first to conclude a multilateral agreement on emergency assistance in connection with radiation accidents, see Nordic Mutual Emergency Assistance Agreement in Connection with Radiation Accidents, Vienna, 17.10.1963, in force 19.6.1964. While the Nordic Assistance Agreement specifically deals with co-operation in combating the damage from ionizing radiation, it does not expressly establish an obligation for the states parties to give accident notification. However, Article 2(2) on the special functions of the IAEA states:

> At any time after he has been notified by a Contracting State of the existence of an emergency within its territory, the Director General of the Agency may designate, in consultation with that State, an observer, who may enter its territory for the purpose of investigating the nature and extent of the emergency and reporting to him thereon. [...]

areas;[197] and general treaties on co-operation in the peaceful uses of nuclear energy. The latter kind represents the largest body of international treaties on nuclear energy,[198] but these treaties usually do not make any express mention of accident or emergency information. In contrast, some regional cooperation arrangements, which are not based on environmental treaties *per se*, have programmes, working groups or other institutional systems for emergency response in relation to nuclear accidents. A case in point is the Barents Euro-Arctic Council, whose Environment Action Programme includes nuclear safety and preparedness for nuclear accidents.[199]

Another reference to accident information is made under Article 7, which forbids an assisting Party to disseminate any information about a radiological incident taking place in the territory of the state requesting assistance. Thus, the power to inform other states on a radiological accident is meant to lie in the hands of the state under whose jurisdiction the accident occurs; Similar emergency assistance agreements have been concluded between, e.g., the Federal Republic of Germany-France: Agreement on Mutual Assistance in the Event of Catastrophes and Grave Disasters, 3.2.1977, in force 1.12.1980; The Federal Republic of Germany-Switzerland: Agreement on Radiation Protection in Case of Emergency, 31.5.1978, in force 10.1.1979; The Federal Republic of Germany-Belgium: Agreement on Mutual Emergency Assistance, 6.11.1980, in force 1.5.1984.

[197] E.g. the Agreement between Portugal and Spain on Co-operation in Matters Affecting the Safety of Nuclear Installations in the Vicinity of the Frontier, Lisbon, 31.3.1980, in force 13.7.1981. Although the main thrust of the treaty lies in preventive action at the siting stage of a nuclear plant, the treaty also makes reference to information about danger from radioactivity. Article 5 reads:

> The competent authorities of the two countries agree to set up on their respective territories the systems necessary to detect any signs of danger from radioactivity and mutually inform each other in cases where such danger could have repercussions in the other country.

In addition to this information obligation, the Parties are bound to negotiate in the case of complaints about radiological protection in the neighbouring country (Article 6) and they are to observe any restrictions to the confidentiality of information given (Article 7). In Article 9 the information obligation is further widened to the competent authorities of the constructor country, which "shall keep the competent authorities of the neighbouring country informed of significant incidents affecting other nuclear installations which might affect its territory". Thus, the information obligation seems to cover incidents that are, at least initially, domestic in scope; similar provisions can be found in several other bilateral agreements between states dealing with the issue of nuclear installations in border areas: see, e.g., Belgium-France: Convention on Radiological Protection Relating to the Installations at the Ardennes Nuclear Power Station, 23.9.1966; Federal Republic of Germany-Netherlands: Memorandum on Exchange of Information and Consultation on Nuclear Installations in Border Areas, 27.9.1977; Federal Republic of Germany-Switzerland: Agreement on Mutual Information on Construction and Operation of Nuclear Installations in Border Areas, 10.8.1982.

[198] See, e.g., treaties between Finland-United Kingdom: Collaboration Agreement on the Peaceful Uses of Nuclear Energy, 24.5.1968, in force 20.2.1969; Finland-Sweden: Collaboration Agreement on the Peaceful Uses of Nuclear Energy, 15.10.1968, in force 5.9.1970; Finland-Union of Soviet Socialist Republics: Collaboration Agreement on the Peaceful Uses of Nuclear Energy, 14.5.1969, in force 28.9.1969; Finland-United States: Agreement for Co-operation Concerning Civil Uses of Atomic Energy, 8.4.1970, in force 7.7.1979; Argentina-India: Agreement on Co-operation in the Peaceful Uses of Nuclear Energy, 28.5.1974; Austria-United States: Co-operation Agreement Concerning Civil Uses of Atomic Energy, 14.6.1974; Federal Republic of Germany-Iran: Agreement on Co-operation in the Peaceful Uses of Nuclear Energy, 4.7.1976; Federal Republic of Germany-United States: Agreement on Exchange of Technical Information and Co-operation in Nuclear Safety, 6.7.1981; China-Federal Republic of Germany: Agreement on Co-operation in the Field of Peaceful Uses of Nuclear Energy, 9.5.1984; China-United States: Agreement for Co-operation Concerning Peaceful Uses of Nuclear Energy, Washington, D.C., 23.7.1985, in force 30.12.1985.

Although some bilateral notification agreements existed pre-Chernobyl,[200] the wave of reaction that was set off by the accident led to several new bilateral treaties on information exchange.[201] As an example, Finland and Russia (then the Soviet Union) concluded a treaty, which in its Preamble refers to the binding character of the IAEA Notification Convention.[202] The treaty applies to all civil nuclear installations within 300 kilometres of the common border or the limit of the territorial sea in the Gulf of Finland. The treaty obligation to give information is two-fold: on the one hand, Article 2 establishes the (prior)

---

[199] Look further at http://www.vyh.fi/eng/intcoop/regional/barents/barents.htm; See also the Arctic Council's programme on Emergency Prevention, Preparedness and Response, at http://eppr.arctic-council.org.

[200] See e.g. Exchange of Notes between the Government of the United Kingdom and the Government of the French Republic Concerning Exchanges of Information in the Event of Emergencies Occurring in One of the Two States which could have Radiological Consequences for the Other State, 18.7.1983, in force 18.7.1983. .Article 1 of the note affirms that

> [e]ach State-Party shall inform the other without delay of any emergency which occurs in its State as a result of civil activities which may have radiological consequences liable to affect the other State.

The information is to be communicated through reciprocal warning centres, as set up under Article 2 of the agreement. The warning centres are to operate 24 hours a day and they are to communicate directly with each other alongside diplomatic channels. The agreement gives fairly detailed requirements for the contents of the emergency information. According to Article 8 particularly the date, time, place and nature of the occurrence are important, as are the chemical and physical form and quantity of the substance emitted. In addition to meteorological and hydrological data, the states are also obliged to give information on plans for measures to be taken or already carried out in response to the emergency. The agreement only refers to civil use of nuclear energy; under Article 13 military secrets are expressly left out of the scope of the agreement. The equivalent exceptions concerning information subject to secrecy for military reasons is found in several other bilateral treaties; see further, e.g., France-Switzerland: Agreement on the Exchange of Information in Case of Radiation Emergency, 18.10.1979, in force 13.12.1979; France-The Federal Republic of Germany: Supplementary Agreement on Mutual Information in the Event of Radiological Incidents, 28.1.1981, in force 6.8.1981; Luxembourg-France: Agreement on Exchange of Information in Case of Radiological Emergencies, 11.4.1983, in force 27.4.1984.

[201] See, e.g., Norway-Sweden: Agreement on Exchange of Information and Early Notification Relating to Nuclear Facilities, 21.10.1986; Argentina-Brazil: Protocol of Co-operation concerning Prompt Notification and Mutual Assistance in the Event of Nuclear Accidents and Radiological Emergencies, 29.7.1986.

[202] Finland-Soviet Union: Agreement on Early Notification of Nuclear Accidents and Exchange of Information concerning Nuclear Installations, Helsinki, 7.1.1987, in force 18.7.1987; Finland also concluded similar agreements with Denmark, Sweden, Norway, Germany and the Ukraine. The contents of the agreements are very similar to the Finnish-Soviet agreement. Finland-Denmark: Agreement on Exchange of Information and Notification concerning Danish and Finnish Nuclear Installations, Helsinki, 23.5.1987, in force 14.5.1987. Finland-Sweden: Agreement on Exchange of Information and Notification concerning Finnish and Swedish Nuclear Installations, Helsinki, 25.2.1987, in force 23.5.1987. Finland-Norway: Agreement on Exchange of Information and Notification concerning Finnish and Norwegian Nuclear Installations, Helsinki, 25.2.1987, in force 20.8 1987; Agreement between the Government of Finland and the Government of the Federal Republic of Germany on Immediate Notification of Nuclear Accidents and Exchange of Information and Experience on Nuclear Safety and Radiation Protection, Helsinki, 21.12.1992, in force 28.5.1993; Finland-Ukraine: Agreement between the Government of Finland and the Government of the Ukraine on Immediate Notification of Nuclear Accidents and Exchange of Information and Experience on Nuclear Safety and Radiation Protection, Helsinki, 8.2.1996, in force 7.9.1997.

duty of the parties to exchange data on the technical particulars of the nuclear installations in question in order to facilitate the evaluation of potential effects in the receiving country in case of an accident and in order for the receiving country to be able to elaborate public safety schemes; Article 4, on the other hand, establishes the duty to provide nuclear emergency information in the case of an accident with potential transboundary effects. The source state is immediately to notify the affected state and it is to provide the affected state with all available information in accordance with Article 5 of the IAEA Notification Convention. Article 9 states that the duty to give information is subject to the limitations of the national legislation of the parties. Thus the Finnish-Russian treaty leaves the same loophole of national security or military or other secrecy as most other bilateral treaties.

The scope of the Finnish-Russian treaty goes beyond the IAEA Notification Convention in that it refers in Articles 5 and 6 respectively to notification about all other nuclear accidents not mentioned in Article 1 to the IAEA Convention and to any detected radioactivity which might have radiological consequences in the other state even if such a radioactive release did not originate in the notifying country. The treaty does not provide for the establishment of any new co-operative bodies, but refers to the responsibilities of the already existing highest national authorities in the field of nuclear safety (Article 3). In practice, bilateral cooperation between the two countries developed substantially in the 1990s, and it is an ongoing process. For example, the nuclear power plant at Sosnovyi Bor near St. Petersburg now includes many Finnish safety devices, including a direct telecommunications line - a small "phone box"- for immediate reporting of safety problems at the plant to Finnish authorities.

Finally, one of the most recent regional treaties on the exchange of radiation monitoring data was agreed within the Council of the Baltic Sea States (CBSS) in June 2001.[203] The agreement is meant to establish cooperation on the exchange of radiological information both in normal situations and during accidents, in order to "provide an improved basis for situation assessments, decisions and public information" (Article 1). The basis for the information exchange is the data that parties gather in their national radiation monitoring networks, and it is to be exchanged "without delay", i.e. presumably continuously, and

[203] Agreement on the Exchange of Radiation Monitoring Data, Hamburg, 7.6.2001, not in force.

without compensation. This new regional Agreement is weakened by the fact that Russia is not a signatory.

b) Marine pollution

The great majority of the world's coastal states are bound by some marine pollution prevention treaties.[204] Usually states are required to have established national emergency response systems before entering into treaty obligations.[205] In some cases, however, the treaty obligations may function as incentives for the development of national response systems. Apart from direct physical action taken in order to minimize the damage of a pollution incident, most treaty obligations pertain to the communication between states, their respective authorities, and often also the private operators of ships, oil-platforms,[206] etc. Some marine pollution prevention treaties also set up very detailed guidelines on joint operations in cases of pollution incidents. These are to function on the basis of agreed command structures, detailed reporting formats and standardized communications systems.[207] Although most treaty systems have joint pollution combating operations as their aim, the practical economic and political capabilities may render even the less detailed systems unrealistic.

At the level of global marine pollution prevention at best a mere indirect reference to an accident information duty is found in the 1969 Brussels Convention relating to Intervention on the High Seas in Cases of Oil Pollution Damage.[208] A considerably more elaborate

---

[204] See generally, Edwards, D., 1988, pp. 234-237; Lammers, J.G., 1984, pp. 78-85; On compliance with marine pollution prevention treaties, see Mitchell, R.B., 1994.

[205] But emergency preparedness measures also exist under cooperative arrangements other than marine pollution treaties proper, see e.g. the Arctic Council's programme on Emergency Prevention, Preparedness and Response (EPPR) under the Environmental Protection Strategy, at http://eppr.arctic-council.org and see also its programme on Protection of the Arctic Marine Environment.

[206] See further Gavouneli, M., 1995.

[207] For all of the above see, for example, the International Convention on Oil Pollution Preparedness, Response and Co-operation, London, 30.11.1990, in force 13.5.1995.

[208] International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Damage, Brussels, 29.11.1969, in force 6.5.1975. The Protocol Relating to Intervention on the High Seas in Cases of Marine Pollution by Substances Other than Oil, London, 2.11.1973, in force 30.3.1983, amended 4.7.1991, in force 30.3.1993; amended 10.7.1996, in force 19.12.1997, does not add anything relevant to the indirect

example of accident information requirements is provided by the International Convention for the Prevention of Pollution from Ships, the MARPOL Convention of 1973/78[209] which relates to all forms of marine pollution from operational wastes, but not from dumping.[210] Article 8 on reports about incidents involving harmful substances reads:

> 1. A report of an incident shall be made without delay to the fullest extent possible in accordance with the provisions of Protocol I to the present Convention.
> 2. Each Party to the Convention shall:
> (a) make all arrangements necessary for an appropriate officer or agency to receive and process all reports on incidents; and
> (b) notify the Organization with complete details of such arrangements for circulation to other Parties and Member States of the Organization.
> 3. Whenever a Party receives a report under the provisions of the present Article, that Party shall relay the report without delay to:
> (a) the Administration of the ship involved; and
> (b) any other State which may be affected.

The MARPOL Convention thus lays down the duty of the parties to the Convention to inform, not only other parties that may be affected, but any state that runs a risk of being affected because of the incident. Three specifications follow the duty to report incidents: that they be made without delay, to the fullest extent possible, and inaccordance with to Protocol I, which lays down the detailed provisions for the reporting mechanism of Article 8. The initial duty to report belongs to the master of a ship, or in special circumstances, to the owner, charterer, manager, operator or his agent. The method of reporting must be by the fastest available means, with highest possible priority given to reports transmitted by radio. The initial report must be made to the officer or agency of a state party as referred to

---

provisions of the Brussels Convention. The Protocol refers to the binding character of Articles II to VIII of the Convention as applicable to substances other than oil.

[209]International Convention for the Prevention of Pollution from Ships, London, 2.11.1973; Protocol of 1978 Relating to the International Convention for the Prevention of Pollution from Ships, 1973, London, 17.2.1978, in force 2.10.1983; amended 7.9.1984, in force 7.1.1986; amended 5.12.1985, in force 6.4.1987; amended Dec. 1987, in force 1.4.1989; amended March 1989, in force 13.10.1990; amended 17.10.1989, in force 18.2.1991; amended March 1990, in force 3.2.2000; amended Nov. 1990, in force 17.2.1992; amended 4.7.1991, in force 4.4.1993; amended 6 March 1992, in force 6.7.1993; amended 13.11.1994, in force 3.3.1996; amended 14.9.1995, in force 1.7.1997; amended 10.7.1996, in force 1.1.1998; amended 23.9.1997, in force 1.2.1999; 1997 Protocol adding new Annex VI on Regulations for the Prevention of Air Pollution from Ships, 26.9.1997, not in force. The 1978 Protocol incorporates the 1973 Convention with some modifications; Between Parties the MARPOL Convention supersedes the International Convention for the Prevention of Pollution of the Sea by Oil, London, 12.5.1954, in force 26.7.1958, amended in 1962, 1969 and 1980; See also IMO: *Provisions Concerning the Reporting of Incidents Involving Harmful Substances under MARPOL*, London, 1990, (516 90.08.E).

[210] Further on the MARPOL Convention see Kwiatkowska, B, 1988, pp. 118 et seq; Drel, M.I., 1988, pp. 297 et seq; Baur & Iudicello, 1990, pp. 84-88; Birnie, P. & A. Boyle, 1992, pp. 267-273; and see further for IMO material at www.imo.org.

in paragraph 2(a) of Article 8. Whether this means any state party or the coastal state or some other state is not entirely clear.[211] This (unclear) state must then send the report on to the flag state and any other state likely to be affected.

The circumstances that call for a report are the discharge of non-permitted substances, the discharge of permitted substances if safety or life is at stake, if the ship has been damaged or if there is discharge of a harmful substance from combating a pollution incident, or from scientific research. Also, the mere probability of one of the above-mentioned discharges constitutes a threshold for reporting. Protocol I specifies the contents of the report of a pollution incident, particularly on the chemical properties of the released harmful substance.

Article V of Protocol I further develops the established information mechanism by requiring that:

> Any person who is obliged under the provisions of this Protocol to send a report shall, when possible:
> a) supplement the initial report, as necessary, with information concerning further developments, and
> b) comply as fully as possible with requests from affected States for additional information concerning the incident.

According to this provision, affected states may also request additional information, thus providing for an information scheme, which, in theory, should satisfy even strong demands of efficiency.

The United Nations Convention on the Law of the Sea (LOSC)[212] clearly establishes a state information duty, although the relevant provisions are technically general in content. Article 198 provides for notification of imminent or actual damage:

> When a State becomes aware of cases in which the marine environment is in imminent danger of being damaged or has been damaged by pollution, it shall immediately notify other States it deems likely to be affected by such damage, as well as the competent international organizations.

---

[211] See Churchill, R.R. & A.V. Lowe, 1988, p. 263; Birnie, P. & A. Boyle, 1992, p. 288.

[212] United Nations Convention on the Law of the Sea (LOSC), Montego Bay 10.12.1982, in force 16.11.1994. See generally at www.imo.org.

The duty to provide accident or emergency information here also has the time determinant "immediately" included. It is interesting to note that in the LOSC, as in several other marine pollution conventions, the state duty to provide accident information also applies *vis-à-vis* certain international organizations, here the International Maritime Organization (IMO). Successful co-operation, including information transmission, is also dependent on prior contingency planning by participating states. In the LOSC international organizations are also expressly mentioned as participants in the co-operation of contingency planning (Article 199). Article 198 does not mention state territory or jurisdiction as a prerequisite for the information duty, but rather awareness of a situation.

In respect to information about pollution incidents from vessels, Article 211(7) of the LOSC requires that:

> The international rules and standards referred to in this article should include *inter alia* those relating to prompt notification to coastal States, whose coastline or related interests may be affected by incidents, including maritime casualties, which involve discharges or probability of discharges.

It is not entirely clear what those "international rules and standards" may be, but the above-mentioned MARPOL Protocol 1 is likely to offer the best example.[213] Unfortunately, the merely hortatory wording of Article 211(7), together with the reference to prompt notification only to coastal states (rather than any states potentially affected), appears to weaken rather than strengthen the MARPOL provisions. However, it appears safe to conclude that the duty of states to provide accident information is well grounded in the LOSC.[214]

The 1990 Oil Pollution Preparedness, Response and Co-operation Convention (OPRC), which deals with pollution incidents caused by oil, provides for a comprehensive information scheme for such incidents, as does the 1996 Protocol on Hazardous and Noxious Liquid Substances (OPRC-HNS Protocol).[215] Article 4 of the OPRC refers to the

---

[213] See Birnie, P & A. Boyle, 1992, p. 288; On the test of "general acceptance", see further Kwiatkowska, B., 1988, pp. 118-119.

[214] See also Boyle, A., 1985, pp. 368-369; Kwiatkowska, B., 1988, p. 113.

nearest coastal state as the recipient of information. This may not always be sufficient, and the requirement is clearly weaker than its MARPOL equivalent which refers to "any other State that may be affected". However, when an incident is assessed to be severe enough it is justified to report about it directly to the IMO. The above treaties highlight the function of individuals as the implementers of the accident information duty. The MARPOL and the OPRC lay duties on the flag states to require masters of ships, persons having charge over sea ports, oil handling facilities or offshore units, and pilots of civil aircraft to inform of pollution incidents.[216] Future treaties could come to use the requirement of criminalization of acts of masters of ships as a tool towards making the accident information flow more reliable.[217]

The accident information duty is one of the central provisions of the 1983 Agreement for Co-operation in Dealing with Pollution of the North Sea by Oil and Other Harmful Substances.[218] Also in this regional treaty the initial duty lies with the masters of ships or pilots of aircraft to provide their flag state with accident information. The North Sea area, which includes the English Channel, is divided into zones among the parties. When a pollution incident occurs in the zone of a party, it is the responsibility of that party to assess the situation and to inform other parties of its findings. Under Article 6, the party must also report any action that it has taken to deal with the situation. The scheme has developed a relatively detailed pollution reporting form (POLREP) to be used between the parties in case of a pollution incident. In addition to this, there are agreements on a common

---

[215] On the OPRC Convention and its background, see Doerffer, J.W., 1992, pp. 322-323; Protocol on Preparedness, Response and Co-operation to Pollution Incidents by Hazardous and Noxious Substances (OPRC-HNS Protocol), London, 15.3.2000, not in force; See 4 *IMO News* 1998, pp. 8-11 on background to the Protocol.

[216] See Brown Weiss, E., 1989, p. 145 for the necessity to ensure that private operators implement safety measures. Cf. Seveso Directive: Council Directive of 24 June 1982 on the Major Accident Hazards of Certain Industrial Activites, 82/501/EEC. O.J. L230/25 (1982); Amendment 88/610/EEC; Amendment 91/692/EEC; Commission Proposal of 4 March 1994 for amendment (94/C 106/04), COM(94) 4 final-94/0014(SYN); amended Proposal of 19 June 1995, COM(95) 240 final - 94/0014 (SYN).

[217] According to Birnie, P. & A. Boyle, 1992, p. 207, criminalization may entail an incentive to refrain from harmful conduct and the imposing of more stringent enforcement measures or penalties. For examples of other criminal penalties in some treaties dealt with here, see MARPOL Article 4(2), 4(4); LOSC Articles 217(8), 230; and the 1989 Basel Convention, Article 4(3), 4(4); the 1991 Bamako Convention,, Article 9(2).

[218] Agreement for Co-operation in Dealing with Pollution of the North Sea by Oil and Other Harmful Substances, Bonn, 13.9.1983, in force 1.9.1989. It supersedes the earlier Agreement for Co-operation in Dealing with Pollution of the North Sea by Oil, Bonn, 9.6.1969, in force 9.8.1969.

command structure and radio communications procedures to be used in joint combating operations.[219]

An agreement which is very similar in content to the North Sea Agreement was done by the Nordic states in 1971.[220] The so-called Copenhagen Agreement, however, only covers pollution by oil and it does not establish zones of responsibility. As the parties to the Copenhagen Agreement are all also parties to the North Sea Agreement or the Helsinki Convention to be discussed next, or to both, a great deal of over-lapping has resulted in harmonization of the systems. Thus the Copenhagen Agreement follows the same pollution reporting system (POLREP) as the North Sea Agreement.

In respect to accident information, the Baltic Sea Convention of 1992, just as its predecessor of 1974, is interesting, and somewhat confusing, in that it refers to the binding character of the MARPOL Convention.[221] The duty to provide information is set out in Article 13, which provides, *inter alia*, that accident information is to be given also when a contracting Party has sustained such pollution from the territory of a third state. Annex VII on response to pollution incidents is based on the same reliance on the MARPOL 73/78 as the 1974 Convention, also concerning dumping. The Annex provides for strengthened measures of co-operation in surveillance and emergency response in the coastal areas and response areas of the contracting parties, using, i.a., remote sensing systems.[222] In addition, Article 17 of the 1992 Helsinki Convention deals with information to the public and Article 18 mentions the criteria for protection of information, i.e., industrial and commercial secrecy, national security and the confidentiality of personal data. Thus, the Helsinki

---

[219] Edwards, D., 1988, p. 239.

[220] Nordic Agreement Concerning Co-operation in Measures to Deal with Pollution of the Sea by Oil, Copenhagen, 16.9.1971, in force 16.10.1971.

[221] Convention on the Protection of the Marine Environment of the Baltic Sea Area, Helsinki, 9.4 1992, in force 17.1.2000, has superseded the earlier Convention by the same name done at Helsinki 22.3 1974, in force 3.5 1980. On the Conventions, see Koskenniemi, M., 1993; Ehlers, P., 1993; Fitzmaurice, 1998; see also Mickwitz, P., 1998; And see generally at www.helcom.fi.

[222] Under Regulation 4 of Annex VII the Parties to the Convention are to agree on response regions of the Baltic Sea in which they shall conduct surveillance activities and take response action. An equivalent system existed under the 1974 Helsinki Convention, Regulation 7 of Annex VI. These are, however, not exactly equivalent to the zoning of the North Sea into national areas of responsibility, on which see Edwards, D., 1988, p. 241.

Convention clearly provides for a state duty to provide accident information.[223] The reporting system is harmonized with the North Sea and Copenhagen Agreement POLREP.

The Regional Seas Programme[224] (the Ocean and Coastal Affairs Programme) of the United Nations Environment Programme (UNEP) functions as an umbrella for the establishment of marine environment protection conventions and Action Plans in various sea areas. Since the relative success encountered with the 1976 Mediterranean Convention, the Regional Seas Programme has expanded to cover several areas (in order of adoption): the Red Sea and Gulf of Aden Region;[225] the Kuwait Action Plan Region; the West and Central African Region;[226] the Caribbean Region;[227] the East Asian Seas Region;[228] the

---

[223] *Cf.* to the less elaborate Convention on the Protection of the Black Sea Against Pollution, Bucharest, 21.4.1992, in force 15.1.1994. One of its protocols does, however, provide for an accident notification duty: Article 6 and Annex of the Protocol on Cooperation in Combating Pollution of the Black Sea Marine Environment by Oil and Other Harmful Substances in Emergency Situations, Bucharest, 21.4.1992, in force 15.1.1994. For an example of a Convention which makes no specific provisions for accident information see the Convention for the Protection of the Marine Environment of the North East Atlantic, Paris, 22.9.1992, in force 25.3.1998; The Convention refers to reporting to the Commission only in relation to dumping incidents caused by *force majeure*, see Article 7 of Annex II; The 1992 Convention replaces the Convention for the Prevention of Marine Pollution from Land-Based Sources, Paris, 4.6.1974, in force 6.5.1978 and the Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft, Oslo, 15.2.1972, in force 7.4.1974; The 1974 Paris Convention deals with accident information merely by requiring Parties to minimize and eliminate the consequences of pollution incidents and to "exchange information to that extent", Article 13; See further Articles 8 and 15 of the 1972 Oslo Convention; And see Baur, D.C. & S. Iudicello, 1990, pp. 71-142.

[224] For extensive documentation on the Regional Seas Programme, see under www.unep.ch.

[225] Convention for the Conservation of the Marine Environment of the Red Sea and Gulf of Aden, Jeddah, 14.2.1982, in force 20.8.1985. Protocol Concerning Regional Co-operation in Combating Marine Pollution by Oil and Other Harmful Substances in Cases of Emergency, Jeddah, 14.2.1982, in force 20.8.1985; Implementation of the Convention performed by the Programme of Environment for the Red Sea and the Gulf of Aden (PERSGA), Jeddah.

[226] Convention for Co-operation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region, Abidjan, 23.3.1981, in force 5.8.1984. Protocol Concerning Co-operation in Combating Pollution in Cases of Emergency, Abidjan, 23.3.1981, in force 5.8.1984; UNEP performs secretariat function.

[227] Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region, Cartagena de Indias, 24.3.1983, in force 11.10.1986. Protocol Concerning Co-operation in Combating Oil Spills in the Wider Caribbean Region, Cartagena de Indias, 24.3.1983, in force 11.10.1986; Protocol Concerning Specially Protected Areas and Wildlife to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Area; UNEP performs secretariat function through the Caribbean Regional Coordination Unit, Kingston.

[228] Action Plan for the Protection and Development of the Marine and Coastal Areas of the East Asian Seas Region, Bangkok, 29.4.1981; The Coordinating body on the Seas of East Asia (COBSEA) is an intergovernmental meeting guiding the work under the Action Plan. UNEP Regional Coordinating Unit, Bangkok, performs secretariat function.

South-East Pacific Region;[229] the South Pacific Region;[230] the Eastern African Region;[231] the Black Sea;[232] the North-West Pacific Region;[233] the South Asian Seas Region;[234] the South-West Atlantic Region;[235] and the North-East Pacific Region[236]. The respective Conventions and Protocols all deal with marine pollution incidents, and notably in a very coherent fashion. One deviating factor concerns institutional measures: the Mediterranean, the Kuwait and the Red Sea Conventions establish regional emergency centres. Several of the Regional Seas Conventions establish the UNEP as the Organization functioning as

---

[229] Convention for the Protection of the Marine Environment and Coastal Areas of the South-East Pacific, Lima, 12.11.1981, in force 19.5.1986. Agreement on Regional Co-operation in Combating Pollution of the South-East Pacific by Hydrocarbons and Other Harmful Substances in Cases of Emergency, Lima, 12.11.1981, in force 14.7.1986. Supplementary Protocol to the Agreement on Regional Co-operation in Combating Pollution of the South-East Pacific by Hydrocarbons and Other Harmful Substances in Cases of Emergency, Quito, 22.7.1983, in force 20.5.1987; Protocol for the Protection of the South-East Pacific Against Pollution from Land-Based Activities; Protocol for the Conservation and Management of Protected Marine and Coastal Areas of the South-East Pacific, Paipa 21.9.1989; Protocol for the Protection of the South-East Pacific Against Radioactive Contamination, Paipa 21.9.1989, entry into force 23.1.1995; The Permanent Commission of the South Pacific (CPPS) performs implementation function. Secretariat is rotating.

[230] Convention for the Protection of the Natural Resources and Environment of the South Pacific Region, Noumea, 24.11.1986, in force 18.8.1990. Protocol for the Prevention of Pollution of the South Pacific Region by Dumping, Noumea, 25.11.1986, in force 18.8.1990. Protocol Concerning Co-operation in Combating Pollution Emergencies in the South Pacific Region, Noumea, 25.11.1986, in force 18.8.1990; The South pacific Regional Environment Programme (SPREP) implements the Convention. A secretariat functions in Apia, Western Samoa.

[231] Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region, Nairobi, 21.6.1985; Protocol Concerning Co-operation in Combating Marine Pollution in Cases of Emergency in the Eastern African Region, Nairobi, 21.6.1985, not in force; Protocol Concerning Protected Areas and Wild Fauna and Flora in the Eastern African Region; UNEP functions as secretariat through the Regional Coordination Unit, Seychelles.

[232] Convention on the Protection of the Black Sea Against Pollution, Bucharest, 21.4.1992, entry into force 15.1.1994; Protocol on the Protection of the Black Sea Marine Environment Against Pollution from Land-based Sources, Bucharest, 21.4.1992, entry into force 15.1.1994; Protocol on Cooperation in Combating Pollution of the Black Sea Marine Environment by Oil and Other Harmful Substances in Emergency Situations, Bucharest, 21.4.1992, entry into force 15.1.1994; Protocol on the Protection of the Black Sea Marine Environment Against Pollution by Dumping, Bucharest, 21.4.1992, not in force. An independent secretariat, the Black Sea Environmental Programme, in Istanbul, has been established to implement the Convention.

[233] Action Plan for the Protection, Management and Development of the Marine and Coastal Environment of the Northwest Pacific Region, 1994; UNEP functions as secretariat for the Action Plan.

[234] Action Plan for the Protection and Management of the Marine and Coastal Environment of the South Asian Seas Region, 1995; the South Asian Cooperative Environment Programme (SACEP) functions as the implementing organ for the Action Plan.

[235] Action plan being negotiated since 1980; UNEP provides initial secretarial services.

[236] Action plan being negotiated since 1997.

Secretariat and co-ordinating body for the purposes of the respective Conventions.[237] Another common feature of the Regional Seas Conventions is their mention of the accident information duty also with "competent international organizations" as addressees. Special reference is made to the IMO.[238] This is a sign of the strengthening of the role in the last decades of international organizations in the process of emergency response as a whole. The Mediterranean and Kuwait regional Conventions shall here serve as examples of UNEP Regional Seas Conventions.

The Barcelona Convention for the Protection of the Mediterranean Sea Against Pollution[239] deals with co-operation in reducing or eliminating damage from pollution emergencies, and it does so in a uniquely comprehensive manner.[240] The Mediterranean Convention provides for a very clear duty of states to provide timely emergency information to other Parties. Article 9(2) states that:

> Any Contracting Party which becomes aware of any pollution emergency in the Mediterranean Sea area *shall*[241] without delay notify the Organization[242] and, either through the Organization or directly, any Contracting Party likely to be affected by such emergency. (emphasis added)

One of the Protocols to the Mediterranean Convention concerns oil and other harmful substances.[243] The Protocol shows unusual detail pertaining to co-operation in contingency planning and dissemination of information on preventive measures, both technical and institutional. The institutional measures are strengthened by Articles 6(2) and 10(2), which

---

[237] See the Mediterranean, West and Central African, Caribbean and Eastern African Conventions.

[238] See, e.g., Article 9 of the Eastern African Convention.

[239] Convention for the Protection of the Mediterranean Sea Against Pollution, Barcelona, 16.2.1976, in force 12.2.1978, amended 10.6.1995; On the Action Plan, see Skjaerseth, J.B., 1993.

[240] No express mention of emergency information is included in the Agreement concerning the Protection of the Waters of the Mediterranean Shores, Monaco, 10.5.1976, in force 1.1.1981 (The Agreement pertains only to the coastal areas of France, Italy and Monaco) nor in the Protocol for the Protection of the Mediterranean Sea Against Pollution from Land-Based Sources, Athens, 17.5.1980, in force 17.6.1983, nor in the Protocol concerning Mediterranean Specially Protected Areas, Geneva, 3.4.1982, in force 23.3.1986.

[241] The corresponding provision (Article 12(2)) of the West and Central African Convention reads *should* instead of the present shall.

[242] UNEP, Article 13h; through the Mediterranean Regional Coordination Unit (MEDU), Athens.

[243] Protocol Concerning Co-operation in Combating Pollution of the Mediterranean Sea by Oil and Other Harmful Substances in Cases of Emergency, Barcelona, 16.2.1976, in force 12.2.1978.

lay down the communication and co-ordination functions of the so-called "regional centre".[244] The heart of the emergency information duty is found in Article 8, supplemented by Annex I. Article 8 reads, in part:

> 1. Each Party shall issue instructions to the masters of ships flying its flag and to the pilots of aircraft registered in its territory requiring them to report by the most rapid and adequate channels in the circumstances, and in accordance with Annex I to this Protocol, either to a Party or to the regional centre:
> a) All accidents causing or likely to cause pollution of the sea by oil or other harmful substances;
> b) The presence, characteristics and extent of spillages...
> 2. The information collected in accordance with paragraph 1 shall be communicated to the other Parties likely to be affected by the pollution;
> a) by the Party which has received the information, either directly or preferably, through the regional centre; or
> b) by the regional centre

Thus, the first information duty is placed on the persons involved in traffic on or above the sea. The next information step goes from either a party or the regional centre onward to parties potentially affected. It is interesting to note that not only has a co-ordinating centre been established, but it is also given preference over states as the information relaying body. In Article 9, the duties of the parties is the starting point, rather than persons as in Article 8:

> 1. Any Party faced with a situation of the kind defined in article 1 of this Protocol shall:
> a) Make the necessary assessments of the nature and extent of the casualty or emergency or, as the case may be, of the type and approximate quantity of oil or other harmful substances and the direction and speed of drift of the spillage;
> b) Take every practicable measure to avoid or reduce the effects of pollution;
> c) Immediately inform all other Parties, either directly or through the regional centre, of these assessments and of any action which it has taken or which it intends to take to combat the pollution;
> d) Continue to observe the situation for as long as possible and report thereon in accordance with article 8.

In addition to this elaborate provision, Annex I in a detailed fashion lays down the required contents of a report of an incident under Article 8. Among the relevant facts to be reported are the source of pollution, geographic position, time, date, wind and sea conditions, details

---

[244] The Regional Oil Combating Centre for the Mediterranean, Malta.

about the ship concerned, and in particular, the description of the harmful substances involved, their quantities and concentrations and name of the consignor, consignee or manufacturer. The Annex also requires the provision of supplementary information to any report given under Article 8, either on demand of the receiver of the initial report or as considered relevant by the sender of the report. In conclusion, the Mediterranean Convention and its Protocols make an information scheme that is about equal in detail to the MARPOL Convention and the Helsinki Convention.

The Kuwait Convention of 1978[245] shows great resemblance to the Helsinki and Mediterranean Regional Conventions. It deals with all kinds of pollution of the sea. In its *genre*, however, the 1978 Protocol on oil pollution emergencies[246] to the Kuwait Convention contains an unique feature, namely an article related to the restriction of dissemination of emergency or accident information. Article IX reads:

> Any Contracting State which transmits information pursuant to this Protocol may specifically restrict its dissemination. In such a case, any Contracting State or the Centre to whom this information has been transmitted shall not divulge it to any other person, government, or to any public or private organization without the specific authorization of the former Contracting State.

This provision is an interesting restriction of the otherwise seldom expressly circumscribed state duty to give accident information pertaining to marine pollution disasters.[247]

2.2.2. General International Law

Almost two decade ago, one author concluded that the requirement of states to notify each other of the likelihood that they will be affected by pollution "probably already represents customary law".[248] The vast body of treaty obligations on accident information discussed

[245] Kuwait Regional Convention for Co-operation on the Protection of the Marine Environment from Pollution, Kuwait, 24.4.1978, in force 1.7.1979; The Regional Organization for the Protection of the Marine Environment (ROPME) has been created to implement the Convention. Its secretariat is in Kuwait.

[246] Protocol Concerning Regional Co-operation in Combating Pollution by Oil and Other Harmful Substances in Cases of Emergency, Kuwait, 24.4.1978, in force 1.7.1979.

[247] An equivalent provision is found under Article IX of the Red Sea Convention.

[248] Boyle, A., 1985, p. 369.

above lends serious support to the argument that the duty is established in general international law.[249] This argument is probably strongest in relation to the law of the sea, especially given the general support of the customary character of the LOSC.[250] For instance, the Preamble to the 1992 North East Atlantic Convention recalls the "relevant provisions of customary international law reflected in Part XII of the United Nations Law of the Sea Convention."

The 1986 IAEA Notification Convention does not make any reference to the existence in general international law of the state duty to provide accident information. This does not, however, necessarily indicate a denial of the existence of such a general duty.[251] In 1985, the IAEA developed Guidelines on Reportable Events, Integrated Planning and Information Exchange in a Transboundary Release of Radioactive Materials.[252] In spite of the notorious disregard for the Guidelines that the Soviet Union showed at the time of the Chernobyl accident, the existence of the Guidelines, and subsequent new documents, must be seen as factors in the development of the information duty. And despite the potential escape provided by the confidential information clause, and the lack of objective thresholds, the global Notification Convention provided the single most convincing evidence after the Chernobyl accident that timely and adequate information is one prerequisite for the prevention of nuclear contamination of the environment.

---

[249] See D'Amato, A., 1971, on the "generalizability" of norms. Rules that have been agreed upon in many treaties could be argued to be "generalizable", and to offer sufficient proof of the sense of obligation of states, therefore adequately articulating the customary character of the rule. This could be criticized for the lack of weight given to consent. But see *Military and Paramilitary Activities in and against Nicaragua* case, *ICJ Reports* (1986), paragraphs 174-184.

[250] See *e.g.* Kiss, A.C, 1989, p. 58, 84.

[251] In a statement by the Australian expert to the drafting work who, in regard to the lack of reference to the principles of good neighbourliness and good faith stated that "[p]our l'Australie, l'omission de toute référence spécifique à ces principes ou aux obligations de notification et de consultation qui en découlent en ce qui concerne les dommages transfrontières à l'environnement n'affaiblit en aucune facon lesdites obligations", as cited in Kiss, A.C., 1986, p. 147.

[252] IAEA, Guidelines on Reportable Events, Integrated Planning and Information Exchange in a Transboundary Release of Radioactive Materials, January 1985. IAEA Doc. INFCIRC/310. The Guidelines deal comprehensively with the co-ordinated planning of emergency response (Article V), the criteria for and thresholds of information exchange in case of an actual emergency (Article III, Article IV), and the institutional arrangements in connection to both planning and response (Articles II, IV, V); See IAEA: *Guidance on International Exchange of Information and Data following a Major Nuclear Accident or Radiological Emergency*, May 1992, STI/PUB/914; IAEA: *A Model National Emergency Response Plan for Radiological Accidents*, September 1993, IAEA-TECDOC-718

The strong support of treaty practice in the protection of the marine environment or nuclear law must, however, not be overused so as to blur the existence of a truly general duty to provide environmental accident information. The vast treaty body could also be an indication that more general rules are lacking. Therefore other sources must be examined, and plenty of proof exists besides treaty law to further illuminate the position of the duty in international law.[253]

Firstly, actual state behaviour with regard to accident information is an important consideration when seeking to establish the customary character of the duty. Twenty years ago, on the question of how states *de facto* have acted, a rapporteur to the ILA said that state practice "shows that information is not usually withheld".[254] In connection to his Comment to the Montreal Rules, he again contended that states are usually willing to supply information.[255] It is noteworthy that these comments on state practice were made before the Chernobyl and Sandoz accidents.[256] Two decades later, the institutional measures mentioned above along with the wealth of reports and information that the organizations have either received from states or gathered themselves are overwhelming. Also, several serious accidents have occurred in the past two decades. By way of earlier examples the following can be cited in the area of nuclear power: information was made available to the IAEA on the radiological accident at Goiana, Brazil in 1987; requests for medical or other advice advice in relation to radiological incidents in El Salvador in 1989, Vietnam in 1993, Estonia in 1994 and Costa Rica in 1996; information on radiological concerns at Vandellos, Spain in 1989 and Ust Kamenogorsk, USSR in 1990. All these cases imply that

---

[253] See *Continental Shelf (Libyan Arab Jamahiriya v. Malta), Judgment, ICJ Reports* (1985), paragraph 27: "It is of course axiomatic that the material of customary international law is to be looked for primarily in the actual practice and *opinio juris* of States, even though multilateral conventions may have an important role to play in recording and defining rules deriving from custom, or indeed in developing them". See also *North Sea Continental Shelf* case, *ICJ Reports* (1969), p. 3.

[254] Rauschning, D., ILA, *Report of the 59th Conference* (London, 1982), p. 545. The equivalent comment accompanied by examples of positive state practice of voluntary information exchange was made already in 1978 at the Manila Conference. See ILA, *Report of the 58th Conference*, held at Manila, 1978, pp. 406-407; See Churchill, R.R. & A.V. Lowe, 1988, p. 263.

[255] Rauschning, Dietrich, ILA, *Report of the Sixtieth Conference*, held at Montreal, 1982, p. 173. See further Brunnée, J., 1988, p. 107 on early state practice in Europe.

[256] The great public outcry and many official condemnations of Soviet failure to give prompt information after the Chernobyl accident support the duty to inform (as opposed to the failure itself indicating a new rule). On consistency in state practice, see *Military and Paramilitary Activities in and against Nicaragua* case, *ICJ Reports* (1986), para. 186.

information is not withheld.[257] Also, the Russian authorities relayed early information on the incident at Sosnovyi Bor in 1992, and on the serious accident at a military nuclear complex near Tomsk in 1993.[258] The technical standard of warning equipment has risen considerably in the last few years, giving further impetus to information without political considerations. In contrast to all positive evidence, the demise of *the Kursk* submarine in August 2000 cast some doubts on the willingness of Russian authorities to give prompt and full information about sensitive issues, which, although primarily military, could have had environmental consequences as well.[259]

Secondly, international institutions for the purpose of "managing" environmental accidents offer another dimension of state practice in support of the accident information duty. Many treaties establish their own organs for the communication and co-ordination of accidents and subsequent emergency situations. Under some treaties, specific national authorities or reciprocal warning centres are to stay in direct touch with each other in the case of an accident.[260] In some other cases, already existing international organizations, such as the IAEA, the IMO, the World Meteorological Organization (WMO), the United Nations Food and Agriculture Organization (FAO) or the World Health Organization (WHO) fulfil the same function. By way of example, the IAEA has established the International Nuclear Events Scale (INES) and a data-bank for the collection of information on radioactivity, and the Nuclear Energy Agency (NEA) of the OECD keeps an Incident Reporting System

---

[257] But *contra* Woodliffe, J., 1990, p. 133-134.

[258] UNEP: *Improvement of the International Response to Environmental Emergencies*, 21.2.1995, UNEP/GC.18/2, pp. 4-5; see also IAEA: *The Radiological Accident in Goiana*, September 1988, STI/PUB/815 and IAEA: *The Radiological Accident in San Salvador*, May 1990, STI/PUB/847; There was also conflicting evidence on the flow of information after the incident at *Sosnovyi Bor*, *Hufvudstadsbladet*, 25.3.1992, p. 3; In relation to the major accident at Tomsk, 1993 (widespread contamination after accident at plutonium extraction facility), see further at http://iaea.or.at/worldatom/publications/98pubs/nrsar98.html. On smaller accidents see, e.g. *Lessons Learned from Accidents in Industrial Irradiation Facilities*, IAEA, STI/PUB/1015, 1996; *Lessons Learned from Accidents in Industrial Radiography*, Safety Reports Series No. 7, IAEA, STI/PUB/1058, 1998; and for reports on radiological accidents at Nezvizh, 1991 (death due to fault-clearance at sterilisation facility); Hanoi, 1992 (personal injury at electron accelerator facility); Tammiku, 1994 (theft of radioactive waste resulting in death and injury); San José, 1996 (overexposure of radiotherapy patients resulting in death and injury); *Contra*, on the other hand, there does not seem to be public information readily available on examples of failures to notify of smaller accidents.

[259] See e.g. *The Economist*, 26.8.-1.9.2000, pp. 11 and *Time*, 28.8.2000, pp. 10-17.

[260] An example is provided by the Exchange of Notes between the Government of the United Kingdom and the Government of the French Republic Concerning Exchanges of Information in the Event of Emergencies Occurring in One of the Two States Which Could Have Radiological Consequences for the Other State, 18.7.1983.

which includes the examination of the root causes of nuclear reactor failures.[261] The IAEA Emergency Response Centre (ERC) functions to receive, verify and further disseminate information on a 24-hour basis.[262] The European Commission' Major Accident Hazards Bureau (MAHB) and the Member States' Major Accident Reporting System (MARS) are important regional efforts at gathering crucial information about industrial accidents (under the Seveso II Directive).[263]

Perhaps the most noteworthy example of an institutional measure outside of a specific treaty is the Joint UNEP/United Nations Office for the Coordination of Humanitarian Affairs (OCHA; formerly United Nations Department for Humanitarian Affairs, DHA) Environment Unit in Geneva. After an initial experimental phase of co-operation under the name of the United Nations Centre for Urgent Environmental Assistance (UNCUEA), the Joint Unit was established in 1994 on the basis that many types of accidents were not covered by other arrangements and it was realised that there was a great need for integrated multi-hazard, multi-agency disaster management existed. Its main task is to facilitate the provision of technical advice and urgent assistance in technological accidents. This includes brokerage and information clearing-house functions, and several other coordinating functions are under development since a Strategic Framework on Emergency Prevention, Preparedness, Assessment, Response and Mitigation was prepared by UNEP in the year 2000.[264] The strategy addresses environmental law and clean production and coordination between the Joint Unit and the APELL ("Awareness and Preparedness at the Local Level") Programme for disaster prevention, the Global Resource Information Database (GRID), and the UNEP/Habitat Task Force on the Balkans on issues related to prevention and preparedness, assessment and early warning, and response and mitigation. Apart from this,

---

[261] Reyners, P. & E. Lellouche, 1988, pp. 11-14.

[262] For the development of the system, see Asculai, E. & H.E. Collins, 1988, pp. 22-26; and *Response to Nuclear Accidents at the International Level*, paper by Bernard H. Weiss, Co-ordinator, Emergency Assistance Services, Division of Nuclear Safety, IAEA, Vienna, 1994; and *Report of the First Meeting of the Competent Authorities...*, IAEA, Vienna, 18-22.6 2001.

[263] See further at http://mahbsrv.jrc.it.

[264] See Advisory Group on Environmental Emergencies, First Meeting: *Report on the Joint UNEP/DHA Environment Unit*, 16.12.1994, EU/AG/2; and see Executive Director Report to UNEP Committee of Permanent Representatives: *Enhancement of the International Response Capacity with Regard to Environmental Emergencies*, 23.5.1994, UNEP/CPR.45/7; see also Governing Council of the UNEP: *Improvement of the International Response to Environmental Emergencies*, 21.2.1995, UNEP/GC.18/2; And Governing Council of the UNEP: *Further Improvement of Environmental Emergency Prevention, Preparedness, Assessment, Response and Mitigation*, 15.12.2000, UNEP/GC.21/3/Add.1.

UNEP also provides for valuable monitoring activities and co-operation with many governmental and non-governmental organizations, and, more specifically, with different satellite monitoring systems.[265] As envisaged in relation to the UNEP's role in its new strategy, closer coordination between the large numbers of organizations involved may be needed to ameliorate the present situation, which, although generally well developed in the West, is especially weak with regard to the global commons and also in many developing countries. It is imperative that all the institutions concerned have clear command structures and their personnel sufficient training. As "easy" as accident reporting may seem from a Western perspective, far from all countries yet have response capacity. Assistance, both technical and financial, remains a prerequisite for effective hazard preparedness in many developing states.

Thirdly, the ICJ rendered in 1949 a judgment that was seminal for the development of inter-state information as an issue of international law. In the *Corfu Channel*[266] case between the United Kingdom and Albania, the ICJ concluded that when a state is aware of a hazard that may have harmful effects for other states and does not inform the potentially affected states, it becomes internationally responsible for its failure to warn. The factual situation of the case was centred on submarine mines in Albanian waters, and the loss of human lives and damage that had been caused to British warships because of those mines, *i.e.*, not environmental harm as such,[267] although such has later been argued to be included.[268]

Fourthly, together with the *Corfu Channel* case, the first development of note outside treaty law came about through the uncontested adoption in 1972 by the United Nations General Assembly of a Resolution on co-operation between states in the field of the environment.[269]

---

[265] Especially the Global Environmental Monitoring System (GEMS), the International Register of Potentially Toxic Chemicals (IRPTC), the Infoterra Programme. On the background of these and APELL, see Gosovic, B., 1992 and see further under http://www.unep.org.

[266] *ICJ Reports*, 1949, p. 22: "...it is every State's obligation not to allow knowingly its territory to be used for acts contrary to the rights of other States".

[267] See, e.g., Lammers, 1984, pp. 525-526. Despite the *Lake Lanoux* arbitration, 12 *RIAA*, 1957, pp. 315-316, being based on the interpretation of a bilateral treaty between France and Spain it strengthens the rule of the ICJ in the *Corfu Channel* case. According to the arbitration, which dealt with the use of water by the upstream party of a shared watercourse, and which barely touched upon environmental concerns, a state is obliged to reconcile its own interests with those of neighbouring states.

[268] Birnie, P. & A. Boyle, 2002, p. 136.

The background to the Resolution is to be found in the Stockholm Conference on the Human Environment and its subsequent Declaration on the Human Environment the same year. At a preliminary stage, the Stockholm Declaration contained a draft Principle on the duty to inform - the so-called draft Principle 20 – which was, in its turn, a watered-down successor of an earlier provision on the duty to consult. The duty to consult was considered too broad in scope, and therefore it was suggested that "only" a duty to inform be included. The proposed Principle 20 read:

> Relevant information must be supplied by States on activities or developments within their jurisdiction or under their control whenever they believe, or have reason to believe, that such information is needed to avoid the risk of significant adverse effects on the environment in areas beyond their national jurisdiction.[270]

Due to the disagreement surrounding the duty to consult and a further proposal[271] to circumscribe the duty to inform by the inclusion of exceptions for national security, economic development and national efforts to improve the environment, Principle 20 was never adopted by the Conference on the Human Environment.[272] Consequently, the information duty was reconsidered at the General Assembly in the autumn of 1972, resulting in the above-mentioned Resolution on co-operation between states in the field of the environment.

The 1972 Resolution refers to Principle 21 of the Stockholm Declaration. According to the Resolution, the effective achievement of the aims of Principle 21 rests on the provision of "official and public knowledge" of the technical data relating to the work to be carried out by the acting state. Thus, the text of the Resolution left much to be desired as regards clarity, and furthermore implied that only "prior" information is meant in this context. The information is, further, to be given and received in the "best spirit of co-operation and good

---

[269] Co-operation Between States in the Field of the Environment, United Nations General Assembly Resolution, 15.12 1972, 2995 (XXVII)(1972). Vote: 115 for, none against, 10 abstentions.

[270] U.N. Doc.A/CONF.48/4, Annex, paragraph 20, p. 4 (1972), as quoted in Partan, D.G., 1990, p. 133.

[271] By Brazil, U.N. Doc. A/CONF.48/14 (1972), p. 119.

[272] The proposal by Brazil was a reaction to a dispute between Brazil and Argentina on the Brazilian plan to construct a hydroelectric plant drawing water from a river which enters Argentina downstream. Argentina supported both the duty to consult and the unrestricted duty to inform. The dispute played a decisive role for the omission of draft Principle 20. See further Kiss, A.C. 1976, pp. 30-31; Partan,, D.G. 1990, pp. 133-134. See also Brunnée, J., 1988, p. 106.

neighbourliness" so as not to constitute a means of impeding or delaying the planned utilization of a particular natural resource.

In 1973, the General Assembly adopted a Resolution on the harmonious exploitation of natural resources common to two or more states.[273] In Article 2, the Resolution very clearly sets out that "co-operation between countries sharing such natural resources and interested in their exploitation must be developed on the basis of a system of information and prior consultation". Thus, it functions as a clarification of the 1972 Resolution.[274] The 1973 Resolution was weakened by a notable lack of consensus.[275] Still, the General Assembly Resolutions provide some evidence in favour of the information duty. With the great majority of states being members of the United Nations, its resolutions offer a valuable indication of the *opinio juris* of states.[276]

Subsequent elaborations by other United Nations organs strengthen the assumption that states are willing to consider themselves bound by a duty to inform with regard to accidents. Most notably, the United Nations Committee on the Peaceful Uses of Outer Space, after its 15-year work to reach consensus, in 1986 submitted its draft Principles on Remote Sensing.[277] Principle X expressly provides that states "that have identified information in their possession that is capable of averting any phenomenon harmful to the Earth's natural environment shall disclose such information to states concerned". Principle X is particularly interesting as a statement embracing the idea that any and all states must inform of environmental harm. The basis for the duty does not depend on the state having a connection to the origin of the harm, but on the mere knowledge of such harm. By referring

---

[273] Co-operation in the Field of the Environment Concerning Natural Resources Shared by Two or More States, United Nations General Assembly Resolution, 13.12.1973, 3129(XXVIII)(1973).

[274] A similar wording is found in Article 3 of the 1974 Charter of Economic Rights and Duties of States, United Nations General Assembly Resolution 3281 (XXIX) (1974): "In the exploitation of natural resources shared by two or more countries, each State must co-operate on the basis of a system of information and prior consultations".

[275] 77 states voted for it, 43 abstained, 10 were absent, and Bolivia, Brazil, Nicaragua, Paraguay and Portugal voted against the Resolution. Despite the voting record of the 1973 Resolution, Partan argues that the two General Assembly Resolutions and the Stockholm Conference together "lend[] at least modest support to the existence of a duty to inform of transboundary risks in international environmental law", 1990, p. 138.

[276] See *Military and Paramilitary Activities in and against Nicaragua* case, *ICJ Reports* (1986), para. 188.

[277] Committee on the Peaceful Uses of Outer Space: Draft Principles on Remote Sensing, 13.6.1986, GAOR A/41/20; 25 *International Legal Materials* 1334 (1986).

to the Earth rather than to individual states the Principles also take a rather nature-centred approach. Under Principle XI, states shall also inform on natural disasters "as promptly as possible".

The Organization for Economic Co-operation and Development (OECD) in 1974 gave a Recommendation on Principles of Transfrontier Pollution in which it states that "[c]ountries should promptly warn other potentially affected countries of any situation which may cause any sudden increase in the level of pollution in areas outside the country of origin of pollution".[278] It is not entirely clear whether the duty lies on the polluting state or on any state. Another, less clear, reference is found in the 1977 OECD Council Recommendation concerning access to national courts and administrative agencies in cases of transfrontier pollution.[279] The wording of the paragraphs in these Recommendations is not expressed in peremptory language, but it is nevertheless significant, foremost, as a reiteration of the General Assembly resolutions, and, also, because of the temporal separation of information into pre and post-accident information.

In some contrast to the OECD Recommendations, the UNEP "Draft Principles of Conduct" express the duty to inform in clearer terms.[280]

> 3. States concerned should co-operate, in particular by means of agreed contingency plans, when appropriate, and mutual assistance, in order to avert grave situations,

---

[278] OECD Council Recommendation on Principles concerning Transfrontier Pollution, 14.11.1974. C(74)224(1974). See Title F, Article 9; and Title E for prior information.

[279] OECD Council Recommendation for the Implementation of a Regime of Equal Right of Access and Non-discrimination in Relation to Transfrontier Pollution, 17.5 1977. C(77)28(Final). See Paragraph 8(a).

[280] UNEP Governing Council Decision on Draft Principles of Conduct in the Field of the Environment for the Guidance of States in the Conservation and Harmonious Utilization of Natural Resources Shared by Two or More States, 6/14(1978), 33 GAOR, Supp. 25, Annex I (A/33/25)(1978). The Draft Principles were adopted by the General Assembly in its Resolution on Co-operation in the Field of the Environment Concerning Natural Resources Shared by Two or More States, 34/186(1979). Draft Principle 9:

> 1. States have a duty urgently to inform other States which may be affected:
> (a) Of any emergency situation arising from the utilization of a shared natural resource which might cause sudden harmful effects on their environment;
> (b) Of any sudden grave natural events related to a shared natural resource which may affect the environment of such States.
> 2. States should also, when appropriate, inform the competent international organizations of any such situation or event.

and to eliminate, reduce or correct, as far as possible, the effects of such situations or events.

The text deals both with prior and post-accident information. An Explanatory Note to the Draft Principles does, however, reveal that the drafters did not "seek to prejudice whether or to what extent the conduct envisaged in the principles is already prescribed by existing rules of general international law".[281] This weakens the impact of the Draft Principles as a means of establishing the existence of a customary duty to inform.[282]

In 1982, the International Law Association (ILA) adopted its Rules of International Law Applicable to Transfrontier Pollution,[283] which deal expressly both with prevention and emergency information. The aim of the so-called Montreal Rules is "to set out the rules of customary international law with regard to transfrontier pollution", that is, to express *lex lata*.[284] The ILA, in its Report on the Montreal Conference, includes references to previous state practice: multilateral and bilateral agreements and practical cases in which states have voluntarily provided neighbouring states with information on planned potentially polluting installations.[285] The Report does not, however, cite any proof of the *opinio juris* of states vis-à-vis these practical cases mentioned. Reference is also made to the resolutions of international organizations: the above-discussed Stockholm Declaration and General Assembly Resolutions, the UNEP Draft Principles of Conduct, and the OECD Recommendation of 1977 concerning equal right of access and non-discrimination.

In 1982 in Montreal and in 1984 in Paris, the ILA adopted, respectively, the Rules on Water Pollution in an International Drainage Basin[286] and the Draft Articles on Long-

---

[281] Explanatory Note, 17 *International Legal Materials*, p. 1098.

[282] See, e.g., Lammers, J.G., 1984, p. 336.

[283] ILA, *Report of the Sixtieth Conference*, held at Montreal, 1982 (London, 1983). The emphasis in the Montreal Rules shifted to pollution, shared natural resources and their equitable utilization having already appeared in the 1966 Helsinki Rules on the Uses of the Waters of International Rivers, ILA, *Report of the Fifty-Second Conference*, held at Helsinki, 1966 (London, 1967). The Helsinki Rules do not mention the duty to inform of transboundary environmental pollution, but refer generally to the prevention of new forms of pollution and the abatement of existing water pollution, which might cause substantial injury in a co-basin state (Article X).

[284] As referred to by Sands, P., p. 1988, p. 179; See also Smith, B.D., 1988, p. 81, n. 78.

[285] ILA, *Report of the Sixtieth Conference*, held at Montreal, 1982, p. 172.

Distance Air Pollution.[287] These both refer to the argumentation made in connection to the Montreal Rules.[288] Thus, many weaknesses in the Montreal Rules were transmitted to its successors. The Comment to the Montreal Water Pollution Rules recognizes that the Stockholm Conference did not advance the duty to inform, but that the character of the General Assembly Resolutions and the UNEP Draft is mandatory. The Paris Draft Air Pollution Articles refer to the 1979 ECE Convention on Long-Range Transboundary Air Pollution,[289] which does not deal expressly with accident situations.

Yet another attempt to support the customary character of the duty to provide transboundary environmental information has been made by the Experts Group on Environmental Law of the World Commission on Environment and Development (WCED, the Brundtland Commission). In 1987, the Experts Group submitted its Report on Environmental Protection and Sustainable Development, including a Comment on the current state of environmental law.[290] In Article 15, the Experts Group mentions a duty that "may be regarded as an established principle of environmental law"[291]:

> States shall provide the other States concerned ... with all relevant and reasonably available data ... concerning a transboundary environmental interference.

---

[286] ILA, *Report of the Sixtieth Conference*, held at Montreal, 1982, pp. 531-548. Cited as the Montreal Water Pollution Rules. Article 5 states that ... "[b]asin states *shall*: ...(c) promptly inform states that might be affected, of any sudden change of circumstances that may cause or increase water pollution in the territories of those other states" (emphasis added).

[287] ILA, *Report of the Sixty-First Conference*, held at Paris, 1984, pp. 377-413. Cited as the Paris Draft Air Pollution Articles. Article 5 merely requires states to regularly provide the other states concerned with all relevant and reasonably available data on long-distance transfrontier air pollution.

[288] ILA Water Pollution Rules, Comment, pp. 540-541; ILA Paris Draft Air Pollution Articles, pp. 402-404.

[289] See generally, Fraenkel, A., 1989, pp. 447-476.

[290] WCED, Experts Group on Environmental Law, *Environmental Protection and Sustainable Development*, 1987 (cited as Experts Group Report). Article 6 requires that "[S]tates shall inform all persons in a timely manner of activities which may significantly affect their use of a natural resource or their environment". It does not seem to refer to transboundary pollution. The Experts Group mentions that the principle is a "fairly novel one", p. 63; The follow-up process to the initial Experts Group Report has included, i.a., the adoption of the Bergen Ministerial Declaration on Sustainable Development in the ECE Region, 16.5.1990. The Declaration does not expressly refer to a state duty to inform, but it elaborates upon the theme of Awareness Raising and Public Participation (Article 16(a-j)), where it mentions as its objective "to stimulate national and international exchanges of environmental information..." (Article 16(c)). One of the many outcomes of the entire follow-up process were the ECE Principles and Guidelines on Rights and Obligations Related to the Environment which were to be dealt with at the Rio Conference of the UNCED in June 1992.

[291] Experts Group Report, p. 95.

It is difficult to discern precisely to what kind of information this provision might refer, but, on the grounds that the Experts Group Report in Article 16 more specifically deals with prior information of planned undertakings, it probably refers to accident information. The threshold may, however, be low, as the wording an "interference" is not necessarily very severe. In support of the article, the Comment mentions multilateral treaties on international watercourses and resolutions of international organizations on shared natural resources. Among the latter is, for example, Article 3 of the Charter of Economic Rights and Duties of States.[292] A welcome feature is that the information duty appears to apply on all states, as opposed to only those from whose territory or control environmental harm may originate.

In addition, a group of experts of the Institut de Droit International (IDI) prepared in 1987 a Resolution on Transboundary Air Pollution.[293] It was adopted only shortly after the Chernobyl accident, and therefore reflects some of the problems that had become particularly topical at that time.[294] The IDI Resolution goes beyond the above-mentioned ILA Montreal Rules in scope as it also expressly applies to dangerous materials (Article 3(2)), acid rain (Article 12), the ozone layer (Article 11) and nuclear pollution (Article 10). The Resolution refers to natural as well as human-made pollution of the air. Article 9 makes a detailed account of the kinds of preventive information that states shall exchange in order to carry out their duty to co-operate: regular information about air pollution in their territories, notification of activities envisaged with potential transfrontier pollution threats and consultations on actual or potential pollution problems. In respect to emergency response, Article 9 lays down that:

> [i]n the event of an accident or activities causing a sudden increase in the level of air pollution, even due to natural causes, which is capable of causing substantial harm in another State, the State of origin is under a duty:
>
> (a) promptly to warn all affected or potentially affected States;
> (b) to take all appropriate steps to reduce the effects of any such increase.

---

[292] Charter of Economic Rights and Duties of States, United Nations General Assembly Resolution 3281 (XXIX) (1974). 29 GAOR, Supp. 31.

[293] IDI, Resolution on Transboundary Air Pollution, 20.9.1987. Cairo Session of the Institut de Droit International, 1987. 62 Annuaire IDI 1987, II.

[294] See comment in Sands, P., 1988, p. 274.

> [i]n the event of a disaster involving air pollution in the territory of a State, other States and competent international organizations should, as a matter of urgency and with the consent of the State concerned, undertake humanitarian action to assist the victims. (emphasis added)

It seems evident from the text that the duty to inform with respect to transfrontier environmental pollution is meant to include many aspects, followed by the understanding that this prompt information must be accompanied by immediate assistance of a humanitarian character. The strength of the text must, however, be found in the context of the purpose set out by its drafters: to point out international law *de lege ferenda*.[295] A sense of obligation, *opinio juris*, on the part of states must be demonstrated in order to take a conventional duty beyond the *pacta sunt servanda* principle and to make softer pronouncements into hard obligations. A strong argument is made by Partan who, referring to the work of the ILA, writes that it could be accorded "the same latitude of *opinio juris* as is accorded to governments".[296] On the weight of declarations and decisions by various international conferences and even NGOs, Handl writes that they "amount to authoritative expositions of the state of the law, or, in any event, given the peculiarities of the international law-making process, are highly significant in that they tend to reflect an emerging international consensus in respect of the provisions incorporated".[297] Thus, texts also expressly referring to the legal situation *de lege ferenda* are noteworthy, because they amount to repeated expressions of the direction that the law is taking. The work of the various international groups of experts might well be understood to provide valuable additional evidence in confirmation of state intention.[298]

---

[295] The Rapporteur Mr. do Nascimento e Silva expressed very clearly to the so-called 20th Commission of the IDI (whose task it was to prepare the text) that the aim of the Resolution was 62 Annuaire IDI 1987, II, p. 250.

[296] Partan, D.G., 1990, pp. 160-161; It would also be possible to argue just the opposite: that the works of the ILA, the ILC, and the WCED Experts Group Report fall short in their attempts to show the requisite willingness of states to be bound beyond their treaty obligations by a general duty to inform, ibid, pp. 151-153. Such an argument would be overly cautious, however.

[297] Handl, G., 1978, p. 59.

[298] According to Akehurst "[t]he practice of States needs to be accompanied by ... statements that something is already law before it can become law; practice does not need to be accompanied by a genuine belief that it is already law"; Akehurst, M.B., 1974-75, p. 37. The ILA assertion that it wishes to express *lex lata* could, in such a view, provide for a "statement" in support of customary law.

Finally, as a kind of continuation of its work on state responsibility, the International Law Commission (ILC) in 1978 initiated a study on "International Liability for Injurious Consequences Arising Out of Acts Not Prohibited by International Law". Twenty-four years later, in 2001, the Commission finally adopted a preamble and 19 draft articles, with commentaries, on "Prevention of Transboundary Harm from Hazardous Activities",[299] but excluding the initial topic on liability, the work on which was deferred in favour of finishing first the prevention part of the undertaking. This process, beginning with a Schematic Outline in 1982 by the first Special Rapporteur, Mr. Robert Quentin Quentin-Baxter,[300] has been very eventful as to the development of provisions on environmental information, both risk-information before or during an activity, accident information, and information to the public. Initially, in the Schematic Outline, the duty to inform was treated as a procedural rule, as one of the four so-called compound primary obligations: prevention, information, negotiation and reparation. There was no direct indication of the time-frame (e.g. before, during or after an activity), or what types of environmental information was intended. The second Special Rapporteur, Mr. Julio Barboza, based the information duty on the three notions of assessment, notification and information,[301] essentially relating to

---

[299] Report of the International Law Commission, Fifty-third session, 23 April-1 June and 2 July-10 August, 2001, GAOR, Fifty-sixth, Suppl. No 10, A/56/10, ch. V, pp. 366- 436, at http://www.un.org/law/ilc/reports/2001/2001report.htm.

[300] ILC, Special Rapporteur Robert Q. Quentin-Baxter: *Third Report on International Liability for Injurious Consequences Arising Out of Acts Not Prohibited by International Law,* 1982, A/CN.4/360 (cited as Quentin-Baxter:Third Report). The Schematic Outline was altered and resubmitted in 1984 as an Annex to ILC, Quentin-Baxter: Fourth Report. Although very sparsely discussed by writers, the Schematic Outline contained some important considerations on the duty to inform of environmental risks. In Section 2, Article 1, the Schematic Outline recognized that

> [w]hen an activity taking place within its territory or control gives or may give rise to loss or injury to persons or things within the territory or control of another State, the acting State has a duty to provide the affected State with all relevant and available information, including a specific indication of the kinds and degrees of loss or injury that it considers foreseeable, and the remedial measures it proposes.

The wording of the article seems to indicate any environmental information regardless of timeframe. According to Section 2, Article 3, the source state is entitled to withhold information on the grounds of national or industrial security. The affected state must in such cases be informed that information is being withheld, and it must also be given a clear indication of the kinds and degrees of loss or injury that it is being or may be subjected to.

[301] ILC, Barboza: Sixth Report, Article 11: "notification" was used to convey an initial warning of risk, whereas "information" referred to further technical data. Presumably, the text includes the understanding that polluting activity that has already started is also to be communicated:

> [i]f a State has reason to believe that an activity referred to in article 1 is being, or is about to be, carried out under its jurisdiction or control, it shall review that activity to assess its potential

planned[302] or ongoing activities, leaving it unclear whether accident situations were really covered. The Commission adopted in 1994 a set of Articles on prevention relating to ongoing activities.[303] Article 14 on measures to prevent or minimize risk (a due diligence standard) was adopted on the understanding that any future article defining prevention would indicate whether the provision would also relate to measures taken after the occurrence of an accident to prevent or minimize the harm caused. However, Article B on prevention, adopted by the ILC in 1995, did not indicate whether prevention related only to measures aiming at avoiding accidents, or also to the minimization of harm after an accident has occurred.[304] In contrast, Article D on co-operation provided that if harm has taken place states shall co-operate in minimizing the effects. In 1996, an ILC Working Group on liability included Article 13 on notification and information relating to planned activities which pose a risk of causing significant transboundary harm. The text does not mention accidents, but, confusingly, the Commentary connects it to environmental "emergencies".[305]

> transboundary effects and, if it finds that the activity may cause, or create the risk of causing, transboundary harm, it shall notify the State or States likely to be affected as soon as possible, providing them with available technical information in support of its finding. It may also inform them of the measures which it is attempting to take to prevent or minimize risk of transboundary harm.

[302] The Eighth Report by Special Rapporteur Barboza appears to narrow the scope of the information duty to prior information only, see ILC, Special Rapporteur Julio Barboza: *Eighth Report on International Liability for Injurious Consequences Arising Out of Acts Not Prohibited by International Law*, 1992, Articles 1 and 2. A/CN.4/443 (cited as Barboza: Eighth Report). In the Report, Article 1 on preventive measures lays down that an assessment of potential transboundary harm shall be made by a state before it authorizes a particular activity. Notification and information about the findings of such an assessment are then to be conveyed, under Article 2.

[303] *Report of the International Law Commission on the Work of its Forty-sixth Session*, GAOR A/49/10, pp. 367-437, esp. p. 422: In addition to the duty to notify planned activities, the Commission adopted Article 14, which generically provided that:

> [w]hile the activity is being carried out, the States concerned shall exchange in a timely manner all information relevant to minimizing any risk of causing significant transboundary harm.

According to the commentary to this article, it was meant to include steps taken after an activity had been undertaken, as well as "whatever would be useful, in the particular instance, for the purpose of prevention of risk of significant harm". The article included monitoring the implementation of an activity, as well as any other form of information exchange, including reporting through international organizations. The requirement of a "timely manner" implies that accident information may also have been covered. The commentary says that "when the State becomes aware of such information, it should inform the other States quickly so that there will be enough time for the States concerned to consult on appropriate preventive measures or the States likely to be affected will have sufficient time to take proper actions".

[304] In 1995 the ILC adopted four articles relating to general principles: A (Freedom of action and the limits thereto); B (Prevention); C (Liability and reparation); D (co-operation), *Report of the International Law Commission on the Work of its Forty-seventh Session*, GAOR A/50/10, see p. 211.

More recently, the issue of prevention has been substantively developed under the guidance of Mr. P.S. Rao, the Special Rapporteur for the prevention part of the liability topic. Mr. Rao has maintained a distinction between procedural[306] and substantive principles of prevention. The 1998 session of the ILC on first reading adopted draft articles on prevention of transboundary damage for hazardous activities. Among these are, with some change of wording, the two articles bearing on information and notification, first adopted in 1996, and including the same lack of clarity. The Commentary still said that "the principle of notification is well established in the case of environmental emergencies", and there was no other indication that the Article meant to function *before* the authorization of an activity (Article 10 on notification and information) would include accidents or emergencies of any kind.[307] The article relating to on-going activities (Article 14) came with the same lack of clarity.[308] The commentary stated that "[p]reventing, and minimizing the risk of, transboundary harm based on the concept of due diligence are not a once-and-for-all effort; they require continuous efforts. This means that due diligence is not terminated after granting authorization for the activity and undertaking the activity; it continues in respect of

---

[305] *Report of the International Law Commission on the work of its forty-eighth session*, 6 May-26 July 1996, A/51/10, p. 300, Article 13:

> 1. If the assessment referred to in article 10 indicates a risk of causing significant transboundary harm, the State of origin shall notify without delay the States likely to be affected and shall transmit to them the available technical and other relevant information on which the assessment is based and an indication of a reasonable time within which a response is required.
>
> 2. Where it subsequently comes to the knowledge of the State of origin that there are other States likely to be affected, it shall notify them without delay.

Paragraph 2 indicates that if the State of origin, prior to authorizing a certain activity, is unaware of risks to some states, it must notify those states after the activity has been started, and it must do so "without delay", that is "as soon as the information comes to its knowledge and it has had an opportunity, within a reasonable time, to determine that certain other states are likely to be affected." In its commentary to this article, the Working Group on liability says that "[t]he requirement of notification is an indispensable part of any system designed to prevent or minimize transboundary harm", ibid. p. 298. The commentary mentions the strong basis of this duty in both treaty law and judicial precedent. Somewhat confusingly it goes on to mention that "the principle of notification is well established in the case of environmental emergencies", but leaves it unclear whether emergencies are covered by this article, ibid. p. 299.

[306] Procedural principles: Prior authorization; international environmental impact assessment; cooperation; exchange of information; notification; consultation and negotiation in good faith; dispute prevention or avoidance and settlement of disputes; non-discrimination. Substantive principles: the precautionary principle; the polluter- pays principle; and the principles of equity, capacity-building and good governance see *Report of the International Law Commission on the work of its Fiftieth Session*, GAOR A/53/10, p. 11.

[307] Ibid, p. 51.

[308] "While the activity is being carried out, the States concerned shall exchange in a timely manner all available information relevant to preventing, or minimizing the risk of, significant transboundary harm"

monitoring the implementation of the activity as long as the activity continues".[309] The main contents of this information exchange duty is thus to be found in the different types of reporting and monitoring systems which make a fundamental part of most environmental treaties, and which will be returned to below in Chapter 3. Despite all lack of express reference in the Article or its Commentary, it would be odd if accident information were not meant to be included. A positive interpretation of this is that accident information is so fundamental and self-evidently covered that the Commission had not even thought of mentioning it in the context of information *after* an activity has begun.

The 1999 and 2000 sessions of the ILC finally brought some substantive relief to the unclarities discussed above. On the basis of the Special Rapporteur's Second and Third Reports and comments from states, the ILC during its 2000 session changed some of the prevention articles and also added a few new ones. In the Draft Articles on "Prevention of Transboundary Harm from Hazardous Activities" adopted in 2001 the different types of environmental information are distinct. The Article discussed above on notification and information prior to the authorization of an activity has once again been changed, now to read, as Article 8:

> 1.If the assessment referred to in Article 7 indicates a risk of causing significant transboundary harm, the State of origin shall provide the State likely to be affected with timely notification of the risk and the assessment and shall transmit to it the available technical and all other relevant information on which the assessment is based.
> 2.The State of origin shall not take any decision on authorization of the activity pending the receipt, within a period not exceeding six months, of the response from the State likely to be affected.

The Article on exchange of information, on on-going activities, now Article 12, has developed to read:

> While the activity is being carried out, the States concerned shall exchange in a timely manner all available information concerning that activity relevant to preventing significant transboundary harm or at any event minimizing the risk thereof. Such an exchange of information shall continue until such time as the States concerned consider it appropriate even after the activity is terminated.

[309] Ibid, p. 62.

It does not mention any periodicity for information exchanges, and it seems to leave the determination of relevance to the state of origin. Most importantly, however, Articles 16 and 17 on emergency preparedness and notification of an emergency respectively have been included in the Draft, primarily modelled on the Convention on the Law of the Non-navigational Uses of International Watercourses. Article 16 reads:

> The State of origin shall develop contingency plans for responding to emergencies, in cooperation, where appropriate, with the State likely to be affected and competent international organizations.

Article 17 lays down that

> The State of origin shall, without delay and by the most expeditious means, at its disposal, notify the State likely to be affected of an emergency concerning an activity within the scope of the present articles and provide it with all relevant and available information.

The articles on notification and information (Article 8) and on exchange of information (Article 12) are followed by Article 14 on national security and industrial secrets. Although such information, including intellectual property, may be withheld, as much information as possible must be provided. The Commentary to the Draft Articles makes it clear that this article only relates to Articles 8, 12 and 13 (on information to the public), thus leaving out emergency preparedness and notifications appearing later in the Draft.

In one fell swoop the ILC has finally done away with the years-old uncertainty as to what types of information are really meant. Considering that the Commission itself drafted the Watercourses Convention, it is a mystery why this came so late. The inclusion of these articles is, according to the ILC, "justified since contingency measures or measures of preparedness were required to be put in place by every State as a measure of prevention or precaution".[310] This is an interesting comment, since it expressly connects accident information to precaution, thus implying a very broad understanding of the notion of precaution.

---

[310] *Report of the International Law Commission on the Work of its Fifty-second Session*, GAOR A/55/10, p. 277.

The contribution of the ILC to the development in general international law of the duty to inform on environmental accidents (and on prior notification of planned activities as well as on information to the public (returned to later in Chapter 4)) is noteworthy, although it came exceptionally late.[311] The ILC considers the legal nature of the principles found in the Draft Articles a "self-contained set of primary rules on risk management or prevention", and it sees the work on the topic as mainly entailing "primary obligations of due diligence in essentially procedural form".[312] It now remains to be seen how the Draft will be received by states, for instance how they assess such issues as the nature or extent of due diligence,[313]and then how the Draft Articles on prevention will fit into a relationship with the notion of "acts not prohibited by international law", or, simply, state liability. Chapter 2.3. below returns to liability, in relation to failures to inform of accidents.

Fifthly, the argument here can, in the early 2000s, now be understood to include the entire spectrum of information, prior to activity, during and after it, and in relation to accidents. In respect to the customary character of prior information, there was up until the early 1990s, both clear support[314] and dissenting opinions[315] in legal literature, but a decade later dissent

---

[311] While the aim of the work carried out by the ILC is the codification and progressive development of international law, the texts submitted by the ILC usually do not make a distinction between the two expressly, see Charter of the United Nations, San Francisco, 26.6.1945, in force 24.10.1945, Article 13(1)(a); Special Rapporteur Rao characterizes the ILC development of the prevention issue as "progressive development", "for no one set of universally accepted procedures [are] applicable in the sphere of prevention". Ibid, pp. 274-275.

[312] Ibid, p. 278.

[313] See, *Report of the International Law Commission on the Work of its Fifty-third Session* 23 April-1 June and 2 July-10 August, 2001, GAOR, Suppl. No 10, A/56/10, ch. V, Commentary, pp. 391-396.

[314] As early as 1978, Handl did not doubt the existence of the international legal duty of prior information and consultation, Handl, G., 1978, pp. 57-61; Partan, who asserts that a customary duty to inform exists, does not make a clear distinction between various kinds of environmental information, but by mostly choosing examples of prior information he seems to argue the customary character of mainly truly preventive action, Partan, D.G., 1990, pp. 156-161; Also Francioni writes that international practice supports the existence of a general duty requiring provision of information; Francioni, F., 1991, p. 208; Treating both planned projects and disasters with potential or actual transboundary effects in the same way, Bothe submits that "[i]t is safe to say that a practice of States has developed to give such notice, and that a customary legal duty to do so has resulted therefrom", Bothe, M., 1980, p. 394. See also Bothe, M., 1986, p. 123; For a similar argument, see Smith, B.D, 1988, pp. 80-82; In respect to contingency planning, Weiss notes that "[t]here may already be such a duty in customary international law in responding to marine pollution disasters", Brown Weiss, E., 1989, p. 75.

[315] In 1976 Kiss argued that "one could hardly speak at present of an existing rule in positive international law which would impose the duty upon States to inform those who could be concerned", Kiss, A.C., 1976, p. 31; Sands, P., 1988, p. 35, argued that "while it may be desirable, it is not yet supported by the requisite State practice or by opinio juris". There is also support for the opinion that in spite of wide treaty practice

has now become difficult find. With regard to the main object of this chapter, post-accident information, there is hardly any dissent as to the customary character of the state duty.[316] Borrowing the words of Sands, "it is almost impossible to find a writer who reaches an opposite conclusion".[317] To this effect, Bruha in 1984 stated that "[d]ie Informationspflicht dürfte inzwischen unstreitig sein.Auch die vielfach vertraglich normierte Pflicht, Meeresumweltnotfälle, wo immer sie auch geschehen mögen, unverzüglich zu melden, wird man inzwischen dem Völkergewohnheitsrecht zurechnen können".[318] After the serious accidents, Tolentino submitted that "[r]écemment s'est dégagé, en droit international, le principe selon lequel un Etat est tenu de fournir à ceux qui pourraient en subir des dommages des informations sur une pollution nouvellement constatée ou en accroissement".[319] Furthermore, Rauschning held that "the duty to inform in cases of emergency involving a risk of transfrontier damage is an undeniable rule of international law. Therefore, its existence does not depend on a future treaty".[320] Brunnée asserted that "[t]he duty to notify other states of emergency situations is seldom discussed and hardly disputed as a rule of international law. Accordingly the ILA included it routinely in its Montreal Rules of Transfrontier Pollution".[321]

These writings of publicists reflect opinions both before and immediately after the Chernobyl and Sandoz accidents, and very few have pronounced their legal opinion on the

---

"information and consultation take place on an *ad hoc* basis and in an improvised manner", Bothe, M., 1986, pp. 123-124, referring to Zehetner, 1982, p. 54: "Den skizzierten Verfahrenspflichten wird in der Praxis zum Teil ad hoc zu einem aber immer bedeutender werdenden Teil in institutionalisierter Form entsprochen"; Brunnée concludes that although the duty to exchange (prior) information on harmful transboundary pollution can be considered a rule of international law, the extent of the rule is unclear because of the lack of certainty about the degree of risk needed to 'activate' the duty. Brunnée, J., 1988, p. 108; See particularly the critique offered by *Trends in International Environmental Law*, by the Editors of the Harvard Law Review, American Bar Association, 1992, pp. 41-45: "...the notion of a customary duty of prior disclosure enjoys only dubious status" and "... states perceive a specific obligation of prior disclosure as contrary to their interests", p. 43.

[316] See Gaia, G, 1986, pp. 828-829, for the relationship between the duty to inform and Principle 21 of the Stockholm Declaration; See Wagner, T., p. 33.

[317] Sands, P., 1988, p. 39.

[318] Bruha, T., 1984, p. 61, n. 312.

[319] Tolentino, A., 1987, p. 30.

[320] Rauschning, Dietrich (Rapporteur to the ILA), as quoted in the Final Report of the Rapporteur, Twentieth Commission of the IDI, "Air Pollution across National Frontiers", 62 Annuaire IDI, 1987, I, p. 259.

[321] Brunnée, J., 1988, p. 108.

issue since it "slumbered" after the big accidents,[322] except in relation to the important Principle 18 of the Rio Declaration. The Declaration clearly recognized that:

> States shall immediately notify other States of any sudden natural disasters or other emergencies that are likely to produce sudden harmful effects on the environment of those States.

Unfortunately, the global commons are still left out of the text. It is particularly noteworthy, however, that Principle 18 omits any references to the origin of the harm, thus making all states bound by a duty to inform others, and not only those who are directly concerned because of harmful actions which have taken place in their territory or under their jurisdiction or control. This seems ecologically sound and prudent from the point of view of effective hazard management and accident response. Although the duty should primarily rest with the state of origin of an accident,[323] it seems wise that any state should inform of potential dangers of which it is aware. In the latter case, the information duty thus gains a preventive aspect. This is particularly the case when accidents happen in developing countries that may not even have the equipment or capacity to detect its own technological accidents. Kiss acknowledges that the Conventions and Declarations adopted at the 1992 Rio Conference confirm that certain rules, such as the obligation for states to immediately notify other states of environmental emergencies, are recognised as customary international environmental law.[324] The customary obligation is also argued by Birnie and Boyle,[325] and, likewise, by Sands, who argues that Principle 18 "reflects broadly held views, and crystallises developments in treaties, non-binding instruments and the practice of states".[326]

---

[322] See Sands, P., 1995, generally pp. 458-461, 472-476; Birnie, P., & A. Boyle, 2002, pp. 136-137 (emergency notification and assistance as customary obligation), 322-323 (watercourses and the general principles of co-operation and emergency notification), 469-470 (nuclear installations and notification).

[323] International legal literature offers little or no guidance on this issue, probably because it has been assumed self-evident that the question is examined from the point of view of the duties and responsibilities of the state of origin of an accident. The 1986 IAEA Notification Convention lends strong support to the idea that, at least in the nuclear area, states of origin carry the accident information duty. The Convention was probably elaborated more because of a lack in 1986 of a clear customary duty to inform than due to the fact that custom would already then have embraced the duty of all states to inform of accidents in their knowledge. In an interdependent world this state of origin-thinking is outdated, and it needs, as already seen in the Rio Declaration, to be developed in the direction of co-operation and joint contingency planning, rather than reliance on after-the-fact responsibility.

[324] Kiss, A-C., 1992, see Postscript, pp. 11-12; See also Adede, A.O., 1993, p. 139.

[325] Birnie, P., & A. Boyle, 2002, pp. 136-137.

[326] Sands, P., *Principles...*, 1995, p. 608.

Since the big accidents of the 1980s and the Rio Declaration in 1992, accident notifications have been conceptually tied to obligations to develop contingency planning and "risk communication", combining notions of prior and post-accident information, and thus making the earlier distinction superfluous.[327] In addition to the state duty, the notion of risk communication also increasingly highlights the role of private actors in actively conveying information about potential risks and plans to avoid harm, not least through the consolidation of the practice of environmental impact assessments.

Finally, one further observation deserves mention in support of the argument that accident information represents custom: the duty also appears to include a strong humanitarian aspect. The above-mentioned IDI Resolution on Transboundary Air Pollution expressly connects the notion of humanitarian action with the duty to provide emergency information. The United Nations General Assembly proclaimed the 1990s to be the International Decade for Natural Disaster Reduction.[328] The Decade was meant to enhance disaster prevention and preparedness, and it was one implementation of recent efforts within the United Nations system to improve relief actions in accident and emergency situations. "A Safer World in the 21st Century: Disaster and Risk Reduction" is the motto of a new UN effort called the International Strategy for Disaster Reduction (ISDR). The ISDR consists, *inter alia*, of efforts to develop early warning systems and public awareness of natural and technological risks alike, thus making the crucial connection between humanitarian and environmental.[329]

In 1982, the United Nations Institute for Training and Research (UNITAR) submitted its Model Rules for Disaster Relief Operations,[330] and in 1984 the Office of the United Nations Disaster Relief Co-ordinator (UNDRO) proposed a convention on expediting the delivery of emergency relief.[331] The Draft Convention includes Article 6 on immediate notification

---

[327] See esp. Handl, G., 2001, pp. 81-83, 87-90, where he argues that "emergency preparedness in response to industrial accidents threatening significant transboundary effects is already a general international legal requirement", and that risk communication, as exemplified by the Seveso Directive, is a "basic international public policy tenet"; See also Birnie, P., & A. Boyle, 2002, pp. 136-137.

[328] See further Ramcharan, B.G., 1991, p. 147; See also *Yokohama Conference Report,* 1994.

[329] See further at www.unisdr.org.

[330] UNITAR, Model Rules for Disaster Relief Operations, 1982. UN Doc. 1982.XV.PE/8.

of events that may lead to disasters. The term "disaster" is understood very broadly including any natural, accidental or deliberate events outside of on-going armed conflict (Article 1(b)). This approach is truly welcome, as efficient emergency response requires a comprehensive understanding of the integrated character of environmental and humanitarian concerns. The WHO Programme for Emergency Preparedness and Response (EPR)[332] endeavours to establish efficient emergency communications networks based on national focal points. Historically, humanitarian considerations might have come before environmental concerns and they perhaps therefore offer a more deeply rooted conviction of necessity. However, as the examples of the UNDRO and the WHO show, the two considerations today function much towards the same end. The strong humanitarian - as opposed to environmental - aspect of accident information is further illustrated by the fact that the information duty is a state-to-state duty: very few articulations of the duty connect accident information to hazard management in the global commons.

On the basis of all of the above evidence, it seems very safe to conclude that the duty to inform of transboundary technological accidents represents customary international law. But it is normally possible for a state to object to the binding character of a particular rule of customary law. Although there are examples of failures to inform, it would be difficult to find evidence of explicit denials by states of the existence of a duty to inform of transboundary accidents.[333] Yet, for such an eventuality, the question needs to be answered whether the duty to inform of accidents is also a general principle of law. If it can be argued to be a general principle of law, then it is further important to distinguish whether all states are covered, or only those from whose territory or control an accident originates. The general principles of law, one of the primary sources of international law mentioned in Article 38(1)(c) of the Statute of the International Court of Justice,[334] are very general in character, yet fundamental and legally-binding. The general principles of law are here understood as an independent source of international law,[335] and one that includes the

---

[331] UNDRO, Draft Convention on Expediting the Delivery of Emergency Relief, 18.6 1984. UN Doc. A/39/267/Add. 2. E/1984/96/Add. 2.

[332] Ramcharan, B.G., 1991, pp. 152-154.

[333] See, however, Gaia, G., 1986.

[334] Statute of the International Court of Justice, San Francisco, 26.6.1945, in force 24.10.1945.

[335] Most writers would agree, see Herczegh, G., 1969, p. 25; Rousseau, C., 1970, p. 374; *contra* see Kelsen, H., 1967, p. 539-540.

possibility that, in addition to international legal principles, also legal principles from national legal systems could play a role in international law.[336] These principles highlight the tension between consensuality[337] and non-consensuality[338], a characteristic, which is particularly noticeable in international environmental law where complex considerations meet and where there are examples of some flexibility in law-making.[339]

If the state duty to provide environmental accident information is to be treated as a general principle of law, then on what can such an argument be based? The most readily available answer can – also in this context - be found in the support given by treaty law. The body of international multilateral and bilateral treaty law pertaining to the state information duty is extensive, and it shows convincing uniformity. The treaties governing marine pollution prevention are many more in number, and less controversial in their contents than those relating to nuclear issues. The consistency shown in the global and regional marine conventions is arguably an indicator of the seriousness with which the information issue is taken. Also, the far-reaching institutional and technical arrangements set up in connection to the different schemes are of great importance as they show the practical readiness of the parties to engage in pollution prevention and humanitarian rescue operations. In the area of

---

[336] Legal scholars have taken very different views on this issue: 1) Some refer to domestic principles of law, see Verdross, A., 1926; Verdross, A., 1955; Oppenheim, L.F.L., 1955 (1974), ed. H. Lauterpacht. p. 29; 2) some writers have perceived general principles of law as general principles of international law, see Herczegh, G., 1969, pp. 22-24; 3) a third category of writers refer to both domestic and international legal norms, see further e.g. Herczegh. G., 1969, p. 26; Tunkin, G., 1971, p. 526; 4) in a fourth distinction general principles are primarily principles of international law and secondarily of municipal origin, for further reference see Herczegh, G., 1969, p. 25; 5) a fifth possibility is the denial of the existence of general principles of law, see Kelsen, H., 1967, p. 539.

[337] Herczegh, G., 1969, pp. 35, 43; Some writers consider general principles as part of customary law, see Monaco, R., 1982, p. 611; Others have pointed out the difficulties inherent in attaching the general principles of law to customary law and, thus, state participation in their creation, see Koskenniemi, M., 1989, p. 355, n. 60; For an argument in favour of "a lesser degree of juridical conviction" for general principles of law, see Hannikainen, L., 1988, pp. 242-246. The element of consent need thus not be given the same weight in the formation of general principles of law as it must for custom. The ICJ remains, however, inconsistent on this issue, see *Reservations to the Convention on Genocide* case, *ICJ Reports* 1951, pp. 15, 23; *North Sea Continental Shelf* case, *ICJ Reports* 1969, pp. 3, 23; *Barcelona Traction Light and Power Company Limited, Judgment*, *ICJ Reports* 1970, pp. 3, 32; *Delimitation of the Maritime Boundary in the Gulf of Maine Area*, *ICJ Reports* 1984, p. 246.

[338] On naturalist views, see Bernhardt, R., 1976, pp. 50-76; van Boven, T.C., 1982, p. 107.

[339] See further Birnie, P. & A. Boyle, 1992, pp. 21-24; On soft law, see e.g. Hillgenberg, H., 1999, pp. 499-515. Further, on the sources of law in relation to environmental matters, esp. on treaties and later custom, see Sands, P., 1999, pp. 39-60; and on "fundamentally norm-creating character" (as in the *North Sea Continental Shelf* cases, 1969) as a prerequisite to look for state practice or *opinio juris*, and the argument that e.g. sustainable development does not possess such character and is therefore neither a norm of hard nor soft law, but still holds some normativity, see Lowe, V., 1999.

nuclear matters, the IAEA Notification Convention was the product of a strongly-felt need in the international community to find some preventive mechanisms against the spreading of nuclear pollution. The voluntary character of submission of information from *any* nuclear facilities (Article 3) has also been strengthened by the declarations of the major nuclear weapon states to furnish information about military nuclear accidents.[340] Allowing for some degree of consent to play a role, it thus seems possible to look at accident information as a general principle of law.

Might there be some basis other than treaty law in the search for arguments in favour of the information duty as a general principle of law? The strongest possibility seems to be that of examining the actual basis for all international legal pollution prevention. First, there is the inevitability or *prerequisite* argument:[341] environmental hazards cannot possibly be "managed" without proper knowledge about the actual state of the natural environment. Second, the interdependent nature of environmental problems supports the argument that developments in national law are relevant for the creation of a general principle of law concerning information on transboundary environmental accidents. On the national level, there must normally be a special relation between two parties in order for a duty to be created between them.[342] According to Prosser and Keeton, it has (within the U.S. legal system) also been recognized that if a defendant's own negligence has been responsible for the plaintiff's situation, "a relation has arisen which imposes a duty to make a reasonable effort to give assistance, and avoid any further harm".[343] Where, on the other hand, the original danger is created by innocent conduct with no fault on the part of the defendant, it *used to be* insufficient grounds for the creation of a duty. This seems, however, to have given way "to a recognition of a duty to take action, both where the prior innocent conduct has created an unreasonable risk of harm to the plaintiff, and where it has already injured him".[344] Logie points out that there are certain situations in which the English law of tort

---

[340] For a possibly even stronger assertion, see further Partan, D.G., 1990, p. 168.

[341] As a characteristic of the state (prior ?) information duty Partan uses the "juristic inevitability" argument found in the *North Sea Continental Shelf* cases, *ICJ Reports*, 1969, p. 37; Partan, D,G., 1990, p. 163.

[342] See e.g., *Charlesworth...*, 1983, chapter 2, paragraph 19; On "toxic torts" and related concepts, see Cassels, J.,1993, pp. 75-109.

[343] *Prosser...*, 1984 (1971), p. 377.

[344] Ibid, p. 377.

imposes a duty to warn.[345] The most interesting situations from an environmental point of view are perhaps those in which the defendant has control over dangerous property, where the danger has been created by the defendant (without the risk creation itself having been negligent and where the danger is hidden), where the plaintiff relies on specialist knowledge of the defendant or where there is no common knowledge of the risk and the defendant cannot take preventive measures against it.[346] The two latter situations in particular offer interesting analogies for the determination of which states are covered by the information duty. It is clear that the accident information duty lies primarily with the state of origin. Technological risks are, however, of such magnitude that *anyone* with some *knowledge* about them cannot ignore the security of those with no or less information on how to prevent or minimize injury to themselves. In an accident situation, an absolute minimum is that pertinent information is not deliberately withheld by anyone from anyone. The development seems to be going further towards a common and fundamental obligation for states to take *active* measures to warn other states of environmental hazards.

No functional situation of pollution prevention or abatement of adverse effects can be achieved unless the state actors can count on each other's mutual co-operation.[347] This is a rationale for the information duty applying to every state having knowledge of an accident. Information is not a one-way exercise, but it requires concerted effort, and good faith. Information thus becomes equal to trust. The principle of good faith might, in turn, as Schwarzenberger points out, be considered both a principle of customary law and a general principle of law.[348] The argument here could be that the state information duty is not necessarily one dependent on full state consent, but it might be based on another general principle of law,[349] thus escaping a strict burden of consent.

---

[345] Logie, J.G., 1989, pp. 121-124.

[346] For a discussion on further implications of the duty to warn of risk under common law, see Green, M.D., 1990, p. 243 et seq.

[347] On co-operation as a legal principle, see Boyle, A., 1994, pp. 120-136.

[348] Schwarzenberger, G., 1951, pp. 28-29; See also Schwarzenberger, G., 1967, pp. 33-35.

[349] On the prohibition of intentional, malicious abuse of rights as a general principle of law, see Hakapää, K., 1981, p. 140; Cameron, J. & J. Abouchar, 1991, p. 25, argue, *de lege ferenda*, that the principle of precautionary action could come to be understood as a general principle of law.

The judgment of the ICJ in the *Corfu Channel* case is particularly interesting. The ICJ asserted that Albania had the obligation to notify with respect to the minefields in its territorial waters on the basis of:

> certain *general* and well-recognized *principles*, namely: elementary considerations of humanity, even more exacting in peace than in war,...[350] (emphasis added)

It is noteworthy that the decision of the ICJ was not based on interpretation of Convention VIII of the 1907 Hague Peace Conference,[351] but rather on "general and well-recognized principles". In Lammers' opinion "the Court's Judgement in the *Corfu Channel* case may be invoked to establish a notification duty in the case that other States' rights are in danger of being infringed by extraterritorial environmental interference considering that in certain exceptional situations such a notification duty could perhaps also be based on the extremely vague and general notion of 'elementary considerations of humanity'".[352] In the opinion of van Panhuys, there is a duty based on considerations for humanity, which obliges a state that is aware of the threat of a *natural* catastrophe to warn another state or its public of the potential hazard.[353] According to Sands, "[h]umanitarian principles also justify the provision of information to people who might be affected by a nuclear or other accident".[354] The argument is thus that, regardless of the origin of an accident - be it human-made or natural or a combination of both -, the respect for human needs is sufficient grounds to invoke a duty of early warning of risk.

In contrast to the search for arguments establishing customary law, the element of consent is less decisive when discussing the existence of general principles of law. In particular, the sphere of international environmental law is often argued to be in great need of such flexible legal argumentation: if the needs of the environment as the object of legal

---

[350] *ICJ Reports*, 1949, p. 22. In the *Nicaragua* case, the ICJ held that if a state "lays mines in any waters whatever in which the vessel of another state have rights of access or passage, and fails to give any warning or notification whatsoever, in disregard of the security of peaceful shipping, it commits a breach of the principles of humanitarian law", *Military and Paramilitary Activities in and against Nicaragua* case, *ICJ Reports* (1986), p. 112.

[351] Second Hague Peace Conference Convention VIII, The Hague, 18.10.1907.

[352] Lammers, J.G., 1984, p. 527.

[353] Van Panhuys, V.H.F., 1972, pp. 159 et seq.

[354] Sands, P., 1995, p. 610.

protection are put foremost, the will of individual states becomes problematic, and if the present generation make (bad) decisions based on narrow or non-existent data, future generations will bear the cost of late and false information.[355] This is where the notion of a general principle of law becomes inseparable from even "softer" forms of law and policy-making. It is difficult to draw dividing lines between the various forms of vague norm- and programme-formulating mechanisms, because they fit poorly into the traditional views of the sources of international law. This is particularly obvious when the wish is not to preclude entirely the possibility of an element of non-consensuality, nor to imply an inherent dependence on supra-positive elements. The very nature of the general principles of law, to the degree that even this can be perceived, makes for a situation where there are no crystal clear answers. These difficulties do not, however, necessarily subtract from the argumentation. The generalities that have been pointed at might hold their value to the extent to which they show the direction of the development of the law.

2.2.3. Contents

The conventional contents of the duty

On the basis of those treaties referred to above, and which *expressly* provide for an environmental accident information duty, the following observations may function as an account of the most central contents of the conventional duty:

1. Geographic dimensions and physical thresholds:

a. Transboundary impacts: the criterion of transboundary harm is the most frequent one. This implies a state-to-state approach. Except for some marine pollution treaties, very few treaties connect the information duty to harm to the global commons.

b. The threshold for activating the duty is often unclear. Usually reference is to "pollution incidents", "critical situations", "considerable increases in annexed substances", "pollution damage", etc. In the best case, mere risk of harm is the relevant threshold, but, of course, even this entails elements of assessment that are left entirely to the discretion of the

[355] On this concept, see esp. Brown Weiss, E., 1989; and see D'Amato, A., 1990, pp. 190-198; Gündling, L., 1990 a, pp. 207-212; Sands, P., 1995, pp. 199-200; Brown Weiss, E., 'Environmental Equity...', 1995, pp. 17-33; ibid., 'Opening...', 1999; and further on the "emerging customary international environmental law principle" of intergenerational equity, McIntyre, O., 1998, p. 91; and on the same, see Granet, M-B, 2001, p. 795; see *supra* ch. 1.1.2.

informing state. This is clearly the most difficult part of most information provisions, but the development of the precautionary principle should be guiding states towards lower thresholds, at best mere risk of damage.

2. The senders of accident information:

a. States: The information duty is owed by one state to another. A majority of treaties impose the information duty on states from whose *territory or control* an accident originates. In some cases the duty seems to belong to *any* state that observes an accident. Even in these latter cases reference is to *treaty parties*. However, this type of information duty is more comprehensive in approach, and it seems to be better suited to the situations to which contemporary technological activity can give rise. Many treaties call upon states to ensure that their authorities establish the technical, institutional and other necessary means to fulfil the information duty in case of an accident. Any "appropriate national authorities" may be designated to handle assessments and practical communication tasks.

b. International organizations, special commissions or technical emergency centres: These organizations or special co-operative bodies may also be charged with the duty to relay information of which they are aware. Their role is normally secondary to that of the states Parties to a treaty. However, some organizations are required to assess accident information they receive, and if it proves to be correct, send it on to all states possibly affected (i.a., the IAEA). Organizations with this type of information "clearing-house" function are sometimes also required to provide for information to the media.

c. Corporate or private persons: Some treaties require the state parties to issue instructions to private persons to inform with regard to accidents. Thus, the initial accident information duty is in some treaties placed upon private industrial undertakers or owners or masters of ships and aircraft. This only pertains to cases where pollution is not deliberate, that is, unlawful dumping incidents are naturally not included. Once the corporate or private undertakers have fulfilled their duty, the state authorities owe the next step in the communication chain.

3. The addressees of accident information:

a. States: The most frequently mentioned addressees of environmental accident information are the other *parties* to the particular treaty in question. Only when the accident information duty is not an express one does any unclarity appear on this point. Some, but fewer, treaties contain reference to information to *any state* potentially affected. Special

reference is in some marine pollution treaties made to the duty to relay information to the *flag state, coastal state* or, simply, to the *nearest state.*

b. International organizations: (1) A large number of treaty regimes are connected to the work of particular intergovernmental organizations, such as the IMO and the IAEA. In such cases the accident information is to be relayed also to the organization and, either directly or indirectly, through the organization to the other parties. (2) Those regimes that have their own institutional arrangements in the form of supervisory commissions or technical emergency centres normally require that the information be relayed, respectively, also to the commission, or also to the technical emergency centre, or only through the technical emergency centre to the other parties.

4. Qualitative and quantitative aspects of the information:

a. Time: The most obvious common denominator of all accident information provisions is the concern that the information be given without delay/in due time/in a timely manner/as soon as possible/rapidly/immediately. Objective thresholds for the timeliness of information on incidents are seldom expressly mentioned, but the parties may be required to co-operate to agree on particular timeframes. Timeliness seems to be the minimum and most widely accepted criterion of accident information.

b. Relevance: Accident information is sometimes followed by the qualification that the information given must be such that it is of relevance for the abatement or minimization of the pollution that already might have started. Such data might include:

- the exact time when an incident has happened,
- the exact location of the incident,
- the chemical or other substances or energy involved and their quantities,
- the foreseeable environmental effects of such substances or energy when released,
- hydrological or meteorological data
- any other information deemed important

c. Comprehensiveness: The data deemed relevant must normally also be as detailed as possible. The information requirement often seems to include the obligation to relay any new and relevant information that appears during the course of events or based on further environmental assessments. Often this requirement is accompanied by the express duty of the states parties to give information on the measures they have already taken or plan to take in order to minimize the potential damage. The information must also be understandable to those receiving it. Linguistic and other problems are potentially great.

This highlights the need for involvement by international organizations, especially to facilitate co-ordination and harmonisation of practices.

5. Institutional measures:

a. The least specific treaties only provide for a general duty of the states parties to develop procedures for reporting.

b. Most treaties provide that "appropriate national authorities" have a function in disclosing information. Such authorities are seldom expressly named in the treaty text itself. Perhaps the strongest indication of a well-developed information duty is found in those treaties that call for institutional measures in the form of particular accident notification or alarm systems. These systems consist of designated national authorities with the responsibility to stay operational at all times for instant communication with other similar institutions in other states. In the case of an accident, the alarm systems are meant to guarantee the fastest possible information in the form of previously determined and compatible data.

c. Institutional arrangements directly connected to particular treaty regimes include (1) supervisory commissions set up for geographically specially defined areas to control pollution prevention by particular or all possible forms of pollution in that area. Some treaty regimes provide for (2) special emergency response centres (international) of a more technical nature aimed at the rapid co-ordination of real situations. (3) Already existing organizations also play a role in some treaty regimes. The most notable examples are the IMO and the IAEA.

6. Other relevant information duties:

Treaties vary considerably on this point. However, many contain periodic implementation and compliance reporting requirements (discussed next in Chapter 3), which could reveal problems in contingency planning. Also various provisions on regular exchange of information on technical, scientific and other data could be relevant. This criterion over-laps with the previous one on institutional measures, as communication capacity might be built on national as well as regional or global level.

7. Limitations or exceptions to the duty:

Treaties do not normally make express limitations to the accident information duty, but rather limiting provisions apply generally to all information exchange dealt with by the treaty. Sometimes this exempts accident information from limitations. A case in point is the

1986 IAEA Notification Treaty, which seems to exempt the immediate notification from any limitations while stating that some limitations apply to further information. Another important observation is that many treaties exempt military installations or ships from the provisions covered by the treaty. *Force majeure* and emergencies are exceptions sometimes *permitting* dumping at sea. Even in such cases, however, is the state information duty often a rule imposed on the states parties.

a. National security: National security is a frequent limitation to the various information exchanges to which states have agreed in treaties;

b. Industrial and commercial secrecy and intellectual property: these are factors referred to in some treaties as limitations upon the different duties to inform;

c. Limitations on private data: appears in a few newer treaties only;

d. Limitations on the receiver of information: a few treaties also require the recipient to withhold information from third states; mostly for national security or industrial secrecy reasons. To the extent that these limitation provisions might offer loop-holes for states to avoid informing about embarrassing accidents and other polluting events it becomes all the more desirable to see the elaboration of effective and pre-determined alarm systems.

The contents in general international law of the duty

The documents discussed above lend support to the argument that at least the following minimum criteria - in addition to the humanitarian aspects - are attached to the duty as a customary rule: there must be a risk of transboundary impact, and the threshold, although likely often to be unclear, lies on harm or, at best, the risk of harm to the environment. Given the development of the precautionary principle, the threshold is moving towards risk;[356] the information duty is a state-to-state duty, and it seems to have already developed into a requirement for all states to inform of potentially transboundary environmental accidents of which they are aware, whether or not they originate from within their territory or jurisdiction. This reflects a preventive and co-operative approach to environmental degradation; accident information must be disclosed immediately or promptly, and it must be followed by further information, which is relevant for the minimization of harm. The duty is not wholly unlimited, but some restrictions related to, for instance, national defence or security may apply to further information beyond initial notification of an accident.

---

[356] *Cf.* Draft Article 20 of the Stockholm Declaration, which recognized the need for states to supply information "to avoid the risk" of adverse effects, U.N. Doc.A/CONF.48/4, Annex, paragraph 20, p. 4 (1972).

2.2.4. Functions

Managing and mitigating?

Hazard management is a term, which is part of the trend referred to in the introductory chapter as the current "managerial ethic".[357] Accident information duties have developed in relation to existing, given, activities; they are not connected to questions on the permissibility or desirability of an activity. Hazard management, including information, is pragmatic, procedural and technical. Accident information has become a public relations tool in the sense that, since Chernobyl, lack of information is connected to secrecy, old-fashioned, closed-societies - the kind of secrecy with which few would want to be identified. The duty seems to be well complied with; its normative basis is no longer questioned and thus, in this sense, it is a successful part of "managing" environmental hazards.

But does accident information really mitigate environmental harm? The *conditio sine qua non* in hazard management is co-operation. Mere unilateral communications cannot form effective flows of accident information. Thus, another elementary aspect of a comprehensive accident response system is co-operation, in all imaginable forms of information exchange, consequent assistance and co-ordination with a view to preventing further harm. To this effect, Tolentino submits that "[l]a communication d'informations entre pays permet d'eviter l'extension de la pollution. Il est en effet conforme au principe de bon voisinage que l'Etat, pollueur potentiel, communique spontanément des informations".[358] Information on oil pollution at sea may permit clean-up efforts and technical arrangements to limit the spread of the oil, but sometimes it does not; when, for instance, it cannot be done on time, the weather does not permit it, the equipment is not state-of-the-art. In a nuclear accident, information will allow authorities to advise people to stay indoors, to restrict cattle from drinking contaminated water, to dispense of medication; but does it really mitigate effects on most of the natural environment?

---

[357] For a recent strong argument in favour of risk and uncertainty management, see Liberatore, A., 1999.

[358] Tolentino, A. S., 1987, p. 30.

Precautionary?

As discussed above, the concept of precaution comes with many interpretations, and it need not be understood too narrowly.[359] Rest argued in 1993 that several mechanisms of a procedural nature have developed from the precautionary principle, among them the instruments of early warning systems as special forms of the general obligation of information.[360] This is a system-based approach, which emphasizes the need for advance planning. Channels of hazard information would constitute one aspect of a comprehensive accident response system.[361] The European Commission connects risk communication to risk assessments and risk management as an element of precaution.[362] This would suggests that information is preventive in nature, but it misses the point that some risks, notably the risks from accidents which have already happened as opposed to risks of planned activities, can no longer be prevented; they can at best be mitigated. Even more to the point, the ILC in 2000, and without further explanation, described contingency and preparedness measures as prevention *or precaution*.[363] This is clearly in want of some nuance: if taken seriously, accident notifications could help prevent further damage to human health and sometimes to the environment, and they could therefore have precautionary elements. But this is still after-the-fact action and cannot be as strongly connected to proper precaution such as EIAs (not to mention other stronger forms of precaution, such as total bans), which would be done on the basis of information before the commencement of a potentially environmentally harmful activity. An analogy is found in the idea of contraception: if the aim is to avoid pregnancy, many "precautions" exist besides abstinence. The "morning-after" pill is one example, not a *pre*-caution, but a caution nonetheless. The same goes for accident information. Kuokkanen refers to the extension of managerial methods to "extreme events" as a "realistic approach" because they appeared already to be uncontrollable, thus offering an explanation to post-accident mitigation, which does not

---

[359] On the limits of precaution in relation to nuclear activities, see Granet, M-B, 2001, p. 794.

[360] See Rest, A., 1993, p. 260.

[361] Also, the degree of preparedness would then depend on the activity in question: very hazardous undertakings would perhaps require also more elaborate preparedness.

[362] Communication from the Commission on the precautionary principle, Brussels, 2.2.2000, COM(2000)1.

[363] *Report of the International Law Commission on the Work of its Fifty-second Session*, 2000, GAOR A/55/10, p. 277.

consider that the development of *ex post facto* systems may have been a result of state unwillingness to regulate the primary activity resulting in the accident.[364]

Resulting in responsibility?

Information on an accident may be referred to as a primary, yet procedural,[365] norm, which may create further damage if it is not adhered to. The issue whether a failure to inform could lead to state responsibility and consequent liability is turned to next.

***

2.4. *Information in Context 1:* Chernobyl Revisited: On the Implications of a Failure to Inform

I. The Accident
II. The Questions It Raised About State Responsibility and Liability
  II.I. In Treaty Law and General International Law
  II.II. In the Work of the International Law Commission

I. The Accident

Just as the argument exists that some aspects of the law of marine pollution have been advanced through the momentum for legal development created by huge oil spills at sea,[366] the duty of states to inform on environmental accidents took considerable steps forward in treaty law, and was thereby further strengthened in customary law, after the nuclear disaster

[364] Kuokkanen, T., 2000, p. 231. For his account of the extension of environmental management to extreme events, see further pp. 230-236.

[365] For instance, the ILC originally used the term "procedural" to describe its four so-called compound primary obligations: prevention, information, negotiation and reparation. See ILC, Special Rapporteur Robert Q. Quentin-Baxter: *Fourth Report on International Liability for Injurious Consequences Arising out of Acts Not Prohibited by International Law* and Annex, 1983, A/CN.4/373, (cited as Quentin-Baxter: *Fourth Report*); More recently, the Special Rapporteur on the liability topic, Mr. Rao, has made an enumeration of procedural and substantive principles, see *First Report on International Liability for Injurious Consequences Arising out of Acts Not Prohibited by International Law,* A/CN.4/487 and Add.1(cited as Rao; *First Report*); On the distinction between primary and secondary norms, see Rosas, A., 1991a, pp. 5-6; For a critique of the distinction see Woodliffe, J., 1990, p. 111.

[366] See e.g. Ghys, R., 1991. Also see www.ospar.org background brief for the 1992 North East Atlantic Convention, which refers i.a. to the 1967 *Torrey Canyon* oil spill as a stimulation for the Agreement for Co-operation in Dealing with Pollution of the North Sea by Oil, Bonn, 9.6.1969, entry into force 9.8.1969; superseded by the Agreement for Co-operation in Dealing with Pollution of the North Sea by Oil and Other Harmful Substances, Bonn, 13.9.1983, in force 1.9.1989.

at Chernobyl.[367] The single most widely discussed environmental accident of the last century was a failure of a nuclear reactor at the Chernobyl power plant in the former Soviet Union.[368] On 26 April, 1986 at 1.23 a.m., the fourth reactor of the Chernobyl power plant caught fire, giving rise to the largest accident in the history of the peaceful use of nuclear energy. From the very outset of the situation there were serious deficiencies in communication and information.[369] The responsible officials received notice of the accident only hours after enormous quantities of nuclear radiation had been released[370]and the lives of many local fire-fighters had been jeopardized.[371]

The delay in information was, no doubt, a reflection of the inefficiency of the Soviet response capability. Also, many would argue that the silence surrounding the accident was a deliberate one, in line with the customary Soviet policy of preferral of "security" over information.[372] Whether the explanation for the silence lies in domestic politics or inefficiency, the lack of information was obvious on all levels of the Soviet administration as well as the Soviet public, making for complete silence in regard to neighbouring states. It was not until the authorities of Sweden, Finland, Poland and Denmark on April 27 had detected the increase in radioactivity that the world heard about the accident.[373]

---

[367] "'Chernobyl' has become a new word in every major language. It is a symbol for the unseeable effects of modern technology, a reminder that to avoid disaster we must do more than avoid war", N.N. Minow, Foreword in Sands, 1988, p. xxviii.

[368] For details on the course of the events surrounding the Chernobyl accident, see, e.g., Salo, A., 1986, pp. 18-22; Kiss, A.C., 1986, pp. 139-141; Knabe, B., 1987 a,b; Sands, P., 1988, pp. 1-2; Cameron, P. et al., 1988, Appendices II, III and IV; Stuckey, D.C., 1988, pp. 687-690; Ellis, D., 1989, pp. 173-182; Medvedev, G., 1991, pp. 65 *et seq*.

[369] See e.g., Gould, P., 1990, pp. 61-62; Liberatore, A., 1999, pp. 61-76.

[370] The reactor functioned with a graphite-moderated pressure tube and was cooled by light water. The accident happened during the poorly supervised testing of a turbogenerator under conditions where safety standards were not followed and several human errors were made. Particularly dangerous levels of Iodine-131, Caesium-134 and Caesium-137 were released immediately after an explosion which blew off the cover plate of the reactor. See Salo, A., 1986, p. 18; Cameron, P., et al., 1988, Appendix III, pp. 205-211; Stuckey, D.C., 1988, n. 5, p. 687; Moser, B., 1989, n. 1, p. 21.

[371] Sands, P., 1988, p. 2.

[372] See, e.g., Knabe, B., 1987 b, pp. 176-194, on the critique of the Soviet information policy in general and specifically after the Chernobyl accident. See also Gould, P., 1990, pp. 22, 64-65; Liberatore, A., 1999, pp. 61-76.

[373] Salo, A.,1986, p. 18.

Finally, with a 72-hour delay, the Soviet authorities made an announcement about the reactor meltdown to the IAEA. After that time, the political impact of the accident forced the Soviet Union to disclose further data and the IAEA was able to assume its role as an information collecting and disseminating organization. During the weeks following the accident, the Soviet Union, although downplaying the impact of the accident, gave some short announcements to the international press and to other states through diplomatic channels.[374] At the time of the accident the Soviet Union was not bound by any treaty obligations to inform neighbouring states, and thus it could be argued that all information that it gave was unilateral and voluntary.[375] The realization in the world community that no treaty obligations existed, led, between August 25 and 29 1986, to a special meeting of experts from 62 countries and 21 international and national organizations. At this so-called Post-Accident Review Meeting, which was convened in Geneva, the Soviet Union offered a report explaining the reasons for the accident. The report did not admit any design or operation mistakes, but rather put the blame on the violation of instructions and operating rules by the staff of the power plant.[376]

Demands for greater openness were echoed even by governments of countries that had been only remotely affected by the Chernobyl nuclear fall-out, and public pressure groups and international organizations joined to demand improvments in international emergency prevention and co-operation. Whether the reasons for the strong reactions to the accident lay in the actual damages or in the impulses from the media of masscommunication, the international community certainly acted swiftly on these pressures. In unprecedented record time, even international legal measures were taken through the adoption in the autumn of 1986 of two global IAEA conventions pertaining to transboundary nuclear pollution: the Convention on Early Notification of a Nuclear Accident and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency. Later in the same year as the failure at Chernobyl, the chemical accident near Basel provided for another example of

---

[374] Sands, P., 1988, pp. 1-2; Stuckey, D.C., 1988, pp. 687-688.

[375] Adede, A.O., 1987, pp. xx-xxi.

[376] Sands, P., 1988, pp. 3-4. See also Moser, B., 1989, p. 11: "The disaster was in no way attributable solely to reactor staff; a major factor was the extremely risky design of this type of reactor...".; In contrast, see the account (*ex post facto*) by the chief engineer at the time of the plant's construction in 1970, Grigori Medvedev, who writes that he was aware that the design had been "a death sentence waiting to be executed", Medvedev, G., 1991, ch. 2.

severe transboundary pollution. The contamination of the River Rhine received a serious addition as a consequence of a fire in Warehouse 956 of the Sandoz Chemical Factory in November 1986. No fire alarm or sprinkler systems had been installed in the warehouse and no pools for the collection of water from fire fighting were provided for. Thus large amounts of toxic chemicals were washed into the river causing severe pollution and injury to the economies in the neighbouring downstream countries.[377]

The Sandoz accident also clearly highlighted the information issue. Although the 'International Water and Alarm Plan 'Rhine" was applicable at the time, the Swiss authorities provided information about the accident with a 24-hour delay. It has been argued that the delay in information had been due to both insufficient emergency planning and a certain secretiveness on the part of the Swiss officials. Furthermore, the Swiss officials did not initially know what authorities to contact in France and the Federal Republic of Germany.[378] This failure to provide timely accident information clearly stood in contrast to the Chemical Convention governing the prevention of pollution of the River Rhine.[379]

Public reaction to both catastrophes was very strong all over the world. Finally, after news of the sufferings of the people and the environment in the Chernobyl emergency area had reached the public, the initial information vacuum also affected the demands for further *glasnost* in the Soviet Union. The Chernobyl nuclear catastrophe forcefully proved the interdependence of the international community in face of the vulnerability of the global ecosystem. Although the horrendous immediate and short-term effects of the radioactive fall-out are now documented, and the discussion on the social impacts of the accident has been vivid,[380] the long-term consequences for human and animal health, crops and soil and the entire global ecosystem still remain unknown.[381]

---

[377] *Bericht der Bundesregierung über die Verunreinigung des Rheins durch die Brandkatastrophe bei der Sandoz AG/Basel und weitere Chemieunfälle*, Umweltbrief No. 34, 12.2 1987 and Annex 1; See also Rest, A., 1987 a, p. 162; Rest, A., 1987 b, p. 59; Schwabach, A., 1989, p. 444-451.

[378] Schwabach, A., 1989, p. 466.

[379] Convention for the Protection of the Rhine against Chemical Pollution, Bonn, 3.12.1976, entry into force 1.2.1979. See also Convention Concerning the Protection of the Rhine against Pollution by Chlorides, Bonn, 3.12.1976, entry into force 5.7.1985.

When the third and last reactor at the Chernobyl nuclear power plant in the Ukraine was finally shut down on December 15, 2000, it happened to the relief of many people around the world, but to the grief of those workers dependent on the plant. Fifteen years of international pressure, financial aid and security advice had borne fruit, and one could see the event as both a practical and symbolic victory for environmental considerations over economic ones. Yet a closer look at the procedure of closing the plant reveals that it may not have been such a clear triumph of a "new culture of openness" over the old disregard of safety standards.[382]

It had been necessary to shut down the third reactor at Chernobyl shortly before the date set for the final closure. According to, *inter alia*, Finnish nuclear safety experts, it would be highly irregular, very risky and contrary to all safety standards to close, open and again close a nuclear reactor for no real reason, especially when it was know that there was a fault in the crucial cooling system.[383] Yet apparently against the advice of the nuclear safety authorities of the Ukraine, the President of the country, Mr. Leonid Kutjma, ordered the reactor to be restarted in order only to be immediately shut down during the widely broadcasted closing ceremony. The reasons were political: a ceremony was wanted for several reasons, not least for a show of national pride, and the President could order such an exceptional procedure.

The event largely speaks for itself. It is hardly in line with the Western understanding of "virtues" such as safety, expert advice, and sensitivity for public needs, but instead it speaks of cultural differences also in safety and risk assessments, and the relatively slow pace at

---

[380] On both national and transboundary effects, see Medvedev, Z.A., 1990, pp. 74-220; See further, e.g., Wynne, B., 1989; Sands, P., 1988, p. 2; Marples, D.R., 1988; and *ibid.*, 1996; And see articles in 38(3) *IAEA Bulletin*, 1996, Special Issue on Chernobyl, including articles on social, health and environmental effects and agricultural issues and nuclear safety; See also *One Decade After Chernobyl – Summing up the Consequences of the Accident*. Proceedings Series, IAEA, STI/PUB/1001, 1996.

[381] Iodine has a life-span of about eight years, whereas the radio isotopes of Caesium last for about thirty years, see Kiss, A.C., 1986, p. 140. Estimates of human deaths in the last fifteen years, which could be related to the accident, place the figure at up to 30 000; See further Marples, D.R., 1996.

[382] On the hopes for such a new safety culture, see e.g. Peterson, S., *Chernobyl Closes, Legacy Endures*, 8.12.2000, www.reliefweb.int/ocha, Chernobyl pages.

[383] Statement of Mr. Jukka Laaksonen, Director General of the Finnish Centre for Radiation and Nuclear Safety, as cited in *Hufvudstadsbladet*, 17.12.2000, p. 9.

which such a "culture" actually changes.[384] Despite this evidence of disregard for safety and reluctance to develop a new culture, international efforts to deal with the aftermath of the accident are remarkable.[385] Conferences, workshops and special programs and aid efforts of UN organizations, such as OCHA, WHO, FAO, IAEA, UNSCEAR, UNDP, UNESCO, UNICEF, ILO and WMO, along with organizations such as the EU, IFRC, and EBRD make for an entire process of activities to deal with the consequences of and to learn from the accident.[386]

II. The Questions It Raised About State Responsibility and Liability

The Chernobyl and Sandoz accidents may serve as examples of the difficulties involved in attributing state responsibility for a failure to warn. Under international treaty law, the Sandoz accident posed several questions related to claims for compensation. When the Sandoz conflagration led to heavy pollution of the Rhine, [387] the 1976 Convention for the Protection of the Rhine Against Chemical Pollution was violated in at least two aspects. Firstly, the inadequate storage of the chemicals and the insufficient safety measures were contrary to Article 7 of the Convention. Secondly, the 24-hour delay in accident information, setting off the Rhine alarm, was a violation of Article 11.

The authorities of the Swiss Confederation did not violate as such their legislative duty to co-operate, but they failed to take adequate controlling measures in relation to its pharmaceuticals industry.[388] This highlighted the issue of causality. It is clear that large-

---

[384] An equivalent example is found in the circumstances surrounding the demise of the submarine *Kursk* earlier in the same year, in August 2000.

[385] See UN GA Resolutions on Chernobyl: 45/190, 21.12 1990; 46/150, 18.12 1991; 47/165, 5.4 1993; 48/206, 14.3 1994; 50/134, 16.2 1996; 52/172, 18.2 1998; 54/97, 28.1 2000.

[386] See www.reliefweb.int/ocha for the heading "International Cooperation on Chernobyl".

[387] See *Bericht der Bundesregierung über die Verunreinigung des Rheins durch die Brandkatastrophe bei der Sandoz AG/Basel und weitere Chemieunfälle*, Umweltbrief No. 34, 12.2.1987 and Annex I; Rest, A., ' 1987a, pp. 160-176; Rest, A., 1987b, pp. 59-65; Schwabach, A., 1989, pp. 443-480; Jessurun d'Oliveira, H.U., 1991, pp. 429-445.

[388] Rest, A., 1987a, p. 164; Kiss, A-C, 1987; And on the responsibility of Swiss government for lack of due diligence, see Report of the International Law Commission, Fifty-third session, 23 April-1 June and 2 July-10 August, 2001, GAOR, Fifty-sixth, Suppl. No 10, A/56/10, pp. 130-132, Commentary, p. 393 (at http://www.un.org/law/ilc/reports/2001/2001report.htm).

scale damage was inflicted to the Rhine, and the contributory effect of the negligence of Swiss officials is likewise beyond doubt. Thus, even criteria for significant and unusual damage could be argued to have been filled, and the basis for fault set.[389] The contributory causation of pollution by the Swiss authorities placed the incident at the level of public international law. Was not the failure of the Swiss authorities to inform about the Sandoz accident clearly an internationally wrongful act that would give rise to state responsibility? Yet, no public international claims were brought in the case,[390] although the Rhine Convention provides for an arbitration clause (Article 15). The Swiss government offered its good offices to reach the peaceful settlement of any disputes.

The Chernobyl accident offers the other concrete example through which the question of state responsibility and liability can be examined.[391] At the time of the Chernobyl accident the international law pertaining to pollution by nuclear emissions was considerably less developed than it is today after *inter alia* the entry into force of the two IAEA Conventions.[392] In response to the nuclear accident at Three Mile Island in 1979, the IAEA published guidelines in 1984 and 1985 on information exchange and mutual assistance,[393] but no multilateral treaties were adopted. One treaty of relevance for the 1986 setting was the 1979 ECE Convention on Long-range Transboundary Air Pollution.[394] Article 8 of the Convention, on the exchange of information, is silent on the issue of accident information, referring entirely to long-term monitoring and preventive measures. Likewise, Article 5 merely refers to consultations to be held at an early stage of risk of transboundary air

---

[389] Ibid, p. 168. This reflects the high threshold set in the *Trail Smelter* arbitration, see *supra* ch. 1.2.

[390] See further Schwabach, A., 1989, pp. 443 et seq.

[391] See Boyle, A., 'Chernobyl..., 1990, pp. 203-219; Levy, R.E., 1989, pp. 617-667; Politi, M., 1991, pp. 473-490.

[392] See, e.g., Scovazzi, T., 1986, pp. 651 et seq.; Adede, A.O., 1987. One treaty which could have been relevant in the Chernobyl situation was the Convention on Civil Liability for Nuclear Damage and Optional Protocol, Vienna, 21.5. 1963, entry into force 12.11.1977. The USSR was, however, not party to the Convention.

[393] Guidelines on Reportable Events, Integrated Planning and Information Exchange in a Transboundary Release of Radioactive Materials, January 1985, IAEA Doc. INFCIRC/321; Guidelines for Mutual Emergency Assistance Arrangements in Connection with a Nuclear Accident or Radiological Emergency, January 1984, IAEA Doc. INFCIRC/310.

[394] Convention on Long-range Transboundary Air Pollution, Geneva, 13.11.1979, entry into force 16.3.1983. On the Convention in general, see Fraenkel, A., 1989, pp. 456-476.

pollution. Thus, the Convention neither provides for an accident information duty[395] nor expressly applies to pollution by radioactive materials.[396]

In contrast to the Sandoz situation, it appears clear that the Soviet Union was under no obligation in international treaty law to provide prompt notification about the accident. Just as in the Sandoz incident, however, the effects on the environment were enormous, and the contributory effect of the silence of the Soviet officials would be difficult to question. In the above examples, the states may well thus already have breached their duties under customary international law to inform of the accidents. However, for complex political and other reasons, no claims were made under public international law in either case.

II.I. In Treaty Law and General International Law

What are the possible legal consequences of a state failure to implement its duty under international law to inform on transboundary environmental accidents? The question is crucial, but one for which no easy answer can be found. Questions of responsibility and subsequent liability[397] are not primarily in line with a preventive approach to global environmental concerns, yet lack of information may be assumed to slow down or prevent the mitigation of the effects of an accident.[398] Sanctionary potential may, thus, in itself have

---

[395] Kiss, A.C., 1986, p. 141; Sands, P., 1988, p. 37.

[396] The definition in Article 1 of air pollution simply mentions "substances or energy", although the Preamble, in connection to mentioning the basis of the Convention in the Helsinki Final Act of the Conference on Security and Co-operation in Europe, provides for a programme "starting with sulphur dioxide and with possible extension to other pollutants". Extensions made through the new Protocols have, however, not included radioactive pollutants.

[397] The aim here is merely to point out some of the most central questions attached to state responsibility for a failure to inform on environmental accidents. For the purposes of this study, responsibility denotes the duty of states to answer for the breach of a legal obligation, whereas liability is primarily understood to mean the responsibility of states, as a next step, to compensate for damage.

[398] On the national level an increase in environmental concerns may be leading to what in the law of tort seems to be the acknowledgement of more circumstances where liability is established for omissions, see Green, M., 1990, pp. 248-249. The tort law of at least some countries has developed towards the recognition of a duty to act also when risk creation has occurred without the fault of the defendant, *Prosser...*, 1984, p. 377; For a survey on liability for failure to warn in the EC, see Will, M.R., 1990, p. 275 et seq.; in English tort law the failure to fulfil a duty to warn of imminent danger is one such nonfeasance which may lead to claims for compensation, see Logie, J.G., 1989, pp. 115, 117; more generally on tort law and accidents, see Cassels, J., 1993, pp. 54-109; in the United States, the trend brought forth with the federal Emergency Planning and Community Right to Know Act (EPCRA), 1986, 42 U.S.C. 11001 (also referred to as the

some preventive effect, and funds from compensation for damage may be necessary for the payment of clean-up costs. Another argument for the need for liability is that it may offer a method of internalizing the costs of dangerous activities.[399]

The issue of state responsibility for failure to inform may first be examined in the context of treaty law. Typically, environmental treaties, as well exemplified by Article 12 of the Mediterranean Convention, provide that:

> [t]he Contracting Parties undertake to co-operate as soon as possible in the formulation and adoption of appropriate procedures for the determination of liability and compensation for damage resulting from the pollution of the marine environment deriving from violations of the provisions of this Convention and applicable Protocols.

Such texts provide for examples of at least some measure of acknowledgement that state conduct related to activities regulated by an agreement should be subject to responsibility and consequent liability. Equivalent notice of the need to develop state responsibility and liability is taken, for instance, in some other Regional Seas Conventions,[400] the 1974 and 1992 Baltic Sea Convention, the 1988 CRAMRA,[401] and the 1982 LOSC.[402] The latter exemplifies very well the incomplete nature of *existing* treaty-based notions of state responsibility: it first connects responsibility to the general need for states to fulfil their international obligations (*pacta sunt servanda*), and then provides that:

> ...States shall co-operate in the implementation of existing international law and the further development of international law relating to responsibility and liability for the assessment of and compensation for damage...

Superfund Amendments Re-authorization Act of 1986 (SARA), Title III) was one which shifted the burden and responsibility of safety measures to the state and local level, see further Baram, M.S., 1990, pp. 67-68, 83-87, and see Scott, R., 1990, pp. 969-979.

[399] See Doeker, G. & T. Gehring, 1990, pp. 1-4.

[400] E.g., Article XIII of the 1978 Kuwait Convention; Article 15 of the 1981 Abidjan West and Central African Convention; Article 11 of the 1981 Lima South-East Pacific Convention; Article XIII of the 1982 Jeddah Gulf of Aden Convention; Article 14 of the 1983 Cartagena de Indias Wider Caribbean Convention; Article 15 of the 1985 Nairobi East African Convention; Article 20 of the 1986 Noumea South Pacific Convention. See *supra* Ch. 2.2.

[401] Convention on the Regulation of Antarctic Mineral Resource Activities, Wellington, 2.6.1988, not in force, Article 8. Generally, see Rothwell, D.R., 1996 and also 2000; But see North East Atlantic Convention.

[402] Section 9, Article 235.

Thus, the Article makes a full circle. "Existing" international law supposedly ought to show the way, but the inadeqacy of the law is reflected in the express need to develop it. Another example illustrative of the difficulties in developing responsibility provisions is provided by the 1992 Helsinki Baltic Convention, superseding the 1974 Convention.[403] In the 1992 text the only difference in wording on developing state responsibility for damage was the *omission* of the "as soon as possible" criterion that had appeared in the 1974 text, and, another decade later, no substantive development of state responsibility has yet happened under that Convention.

Among the astonishing number of treaties, including those bearing on the state duty to inform with regard to accidents, the great majority do not establish clear rules on state responsibility, and only under a few treaties have there been any concrete efforts to develop protocols on liability.[404] Two outstanding examples are perhaps found, first, in the negotiations for a bio-safety Protocol under Article 19(3) of the 1992 Biodiversity Convention. The process has been marred by great polarization between African and Asian countries on the one hand, and many industrialized countries on the other hand. The protocol now provides for elaboration of rules on liability within three years of the coming into force of the Protocol.[405] The second example is found under the 1989 Basel Convention on the Transboundary Movements of Hazardous Wastes, under which a liability and compensation Protocol has been adopted. Although there are considerable weaknesses in the Protocol (further dealt with below in Chapter 3 in the specific context of procedural aspects of waste trade), it is in itself remarkable that such an instrument on third party liability has at all been elaborated[406] - other interesting developments in private

---

[403] Articles 17 and 25 respectively. See *supra* ch. 2.2.

[404] See ILC: Rao, *Second Report*, pp. 18-22 for a few examples of protocol negotiations.

[405] See draft article 25, UNEP/CBD/ExCOP/1/2, p. 32.

[406] Protocol on Liability and Compensation for Damage Resulting from the Transboundary Movement of Hazardous Wastes and their Disposal, Basel 10.12.1999, not in force; As of Dec. 2000 the Protocol has 13 signatories, of which none are African states; Both strict liability and fault-based liability appear in the Protocol. The notifier is strictly liable for damage until the movement document has been signed by the disposer. After that, the disposer is liable for damage. If only one contractor is Party to the Convention, strict liability is applied to damages while that Party possesses control of the waste. Fault-based liability is applied for failures to comply with the Convention or for wrongful intentional, reckless or negligent acts or omissions, see Articles 4 and 5; See generally Wolfrum, R. & C. Langenfeld, eds., 1999; and Choksi, S., 2001.

liability are found in maritime law, where the 1996 HNS Convention introduces strict liability for ship-owners and compulsory insurances and insurance certificates.[407]

Obviously, all conceivable situations are not covered by treaty law. Could then the failure to inform about another Chernobyl or Sandoz-type accident lead to demands under general international law for the international responsibility of the state? No claims were brought regarding the Sandoz or Chernobyl accidents on the basis of general international law, but it is noteworthy that precisely these two accidents have considerably influenced the present conception of the need to inform. In the 1972 Stockholm Declaration,[408] the two principles relevant for responsibility and liability are quite general and vague in character. Principle 21 combines the notion of state responsibility with the notion of state sovereignty. Principle 22 provides that:

> States shall co-operate to develop further the international law regarding liability and compensation for the victims of pollution and other environmental damage caused by activities within the jurisdiction or control of such States to areas beyond their jurisdiction.

This text, as well as the equivalent Principle 13 of the Rio Declaration, is strikingly similar to those treaty provisions mentioned above which have been adopted since the Stockholm and, also, the Rio Conferences. Although the text (like most treaty texts) only refers to the need for future development of the liability issue, it has still been argued to function as an expression of the existence of some basic norms on state responsibility or liability,[409] the argument supposedly being that one cannot develop something which does not already exist, however embryonic. Yet this development has been slow.

The *Corfu Channel* case dealt with the responsibility of Albania for its failure to warn British warships about the mines present in its waters, that is, a wrongful act. The case

---

[407] International Convention on Liability and Compensation for Damages in Connection with the Carriage of Hazardous and Noxious Substances by Sea (the HNS Convention), London, 3.5 1996, not in force; see generally Odier, F., 1997; Ganten, R.H., 1997; Rengifo, A., 1997; Wolfrum, R. & C. Langenfeld, eds., 1999; and see 4 *IMO News* 1998, pp. 8-11 on background to the Protocol on Preparedness, Response and Co-operation to Pollution Incidents by Hazardous and Noxious Substances (OPRC-HNS Protocol), London, 15.3 2000, not in force.

[408] See also Dupuy, P-M, 1980, pp. 371-374.

[409] See, e.g., Rosas, A. & Z. Brodecki, 1990, p. 8.

notably did not deal with environmental concerns as such,[410] but its reference to "acts contrary to the rights of other states" has later been argued to cover environmental hazards.[411] As will be recalled, the *Lake Lanoux*[412] arbitration was based on a bilateral treaty between France and Spain, and the contribution of the arbitration, that states are under an obligation not to change the waters of a shared river to the serious injury of other states, seems to be more a reflection of duties of due diligence than state liability for result, that is, pollution. The ruling of the Arbitral Tribunal in the *Trail Smelter*[413] case between the United States and Canada was based on a bilateral arbitration agreement rather than general international law. The early *Chorzów Factory*[414] case points in the same direction as the other cases: that liability to pay compensation will arise with the wrongful act of a breach of an international obligation, a prerequisite often beyond fulfilment in environmental matters. Although these and other relevant cases mostly point towards responsibility for wrongful acts, there may nonetheless also be some cases that lend support to the acceptance of the notion of state liability without any wrongful act.[415] The origin of the primary obligation that is alleged to have been breached, be it treaty, custom or any other source of international law, is however, as affirmed in the *Gabcikovo-Nagymaros* case,[416] of no consequence for state responsibility.

Finally, remarkable advances have been reached recently by the International Law Commission, which has finished its work of several decades on drafting principles on state

---

[410] *ICJ Reports, 1949, p. 4.*

[411] Birnie, P. & A. Boyle, 2002, p. 136.

[412] 12 *RIAA*, 1957, p. 285.

[413] 3 *RIAA*, 1941, p. 1905.

[414] *PCIJ, Ser. A*, No. 13, 1928.

[415] The Secretariat of the ILC has, in its document *Survey of Liability Regimes Relevant to the Topic of International Liability for Injurious Consequences Arising Out of Acts Not Prohibited by International Law*, 23.6.1995, A/CN.4/471, pointed out that "[e]ven when States have refused to accept liability as a legal principle, they have nevertheless acted as though they accepted such liability, whatever the terms used to describe their position", p. 62. On other cases, see further pp. 62-69.

[416] *Case Concerning the Gabcikovo-Nagymaros Dam, ICJ Reports 1997,* pp. 38-39, para. 47; See also *Rainbow Warrior case* (New Zealand-France), *UNRIAA*, vol. XX, 1990, p. 251, para. 75, which speaks of "any violation by a State of any obligation, of whatever origin, gives rise to State responsibility and consequently, to the duty of reparation"; The *Barcelona Traction, Light and Power Company, Limited, Second Phase, ICJ Reports 1970*, p. 46, para. 86, in turn mentions "breach of an international obligation arising out of a treaty or a general rule of law".

responsibility.[417] Although it still remains to be seen how the principles are met by states, the ILC managed to clarify several points that had been confusing in earlier drafts. In particular the decision to leave out express reference to obligations of conduct, result and prevention, which had appeared earlier,[418] clarifies the understanding that state responsibility is only dependent on two criteria, those of wrongfulness and attribution to a state.[419]

But as Crawford and Bodeau acknowledge, "the terms 'obligations of conduct' and 'obligations of result' have much currency in international law"[420] and the ILC draft is left with the notion of the "character" of international obligations, further elaborated in the Commissions commentary to its draft.[421] Thus, in trying to understand how state responsibility relates to failures to inform, one might profit most from resorting to the method used by some writers to concentrate on the primary rule.[422] It is, in one argument, a rule relating to conduct (of states), as opposed to result. States may under a specific treaty have a clear information duty, but the duty is not unlimited. It essentially places on the state a duty to act with due diligence,[423] to do its best in establishing such legal, technical and

---

[417] Report of the International Law Commission, Fifty-third session, 23 April-1 June and 2 July-10 August, 2001, GAOR, Fifty-sixth, Suppl. No 10, A/56/10, at http://www.un.org/law/ilc/reports/2001/2001report.htm. On the process, see Spinedi, M. & B. Simma, 1987; Crawford, J. & P. Bodeau, 2000, pp. 45-54; and Crawford, J., J. Peel & S. Olleson, 2001.

[418] For discussions on the confusions that these misleading notions have given rise to, especially through analogies to some national legal systems, see Crawford, J., 1999, pp. 440-442; and see Dupuy, P-M, 1999, pp. 374-382.

[419] See Dominicé, C., 1999, for further discussion: "There is no additional criterion. The quantitative element is merely relevant with respect to the reaction of other states. The breach of a multilateral obligation gives to the injured state the normal rights of the 'victim', whereas the other states are not 'victims' but are entitled to take measures aiming at the cessation of a conduct in breach of that obligation, without prejudice of conventional systems", p. 353.

[420] Crawford, J. & P. Bodeau, 2000, p. 47.

[421] Report of the International Law Commission, Fifty-third session, 23 April-1 June and 2 July-10 August, 2001, GAOR, Fifty-sixth, Suppl. No 10, A/56/10, pp. 130-132, Commentary to Article 12 (at http://www.un.org/law/ilc/reports/2001/2001report.htm); Further see Crawford, J., 1999, pp. 440-441; Crawford, J. & P. Bodeau, 2000, pp. 46-47.

[422] See Pisillo-Mazzeschi, R., 1991, pp. 21-33.

[423] On this concept, see Pisillo-Mazzeschi, R., 1989; and 1992, pp. 9-51; also ibid., 1991, pp. 15-35, esp. p. 19. See also Birnie, P. & A. Boyle, 1992, pp. 141-142; See *Report of the First Meeting of the Competent Authorities Identified under the Convention on Early Notification of a Nuclear Accident and Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency*, IAEA, Vienna, 18-22.6. 2001,

institutional structures which enable the transmission of information in a way prescribed by the treaty. Consequently, the breach of a treaty obligation on accident information would be one that entails the responsibility of the state[424] for fault or, as expressed in relation to the primary obligation, lack of diligence. It has been argued above that the state duty to inform of environmental accidents is well grounded in general international law. The various industrial and other activities that may lead to accidents with transboundary effects are usually not in themselves unlawful. States may, however, act wrongfully if they do not take measures to inform other states of imminent danger. A minimum argument would be that unless states take all possible efforts to fulfil this obligation, they are, just as under treaty law, in breach of an international obligation of due diligence and responsible for it. At this junction it is important to point out that the primary concern here is the responsibility of states for failure to inform with respect to accidents originating from their own territory, jurisdiction or control. So far, it is highly unlikely that states that fail to inform with respect to accidents originating from another state would accept any type of responsibility. This latter type of information duty is preventive, with a basis in good faith and co-operation. It cannot be excluded, however, that the future could, and perhaps should, see developments that embrace also international responsibility and liability in this regard. For the moment, such arguments still seem tenuous; they could find support in doctrine, but hardly in concrete state practice.

Besides different variations of thought regarding responsibility based on due diligence or conduct or means, the issue has sometimes been taken to the realm of results or even risks of adverse effects. The failure to give accident information can lead to great problems in the mitigation of effects. One argument could therefore be that the duty to inform is a rule of result, it is there to prevent further harm.[425] Possibly, the argument could then be attached that, if a very high degree of hazard is involved in the activity in question, the duty to inform might need to be even more meticulously observed.[426] Regardless of due diligence,

---

para. 11: "determining what an accident is in the sense used in the Convention is left to the precautionary judgment of the State in their exercise of due diligence".

[424] See Politi, M., 1990, p. 476: "it is obvious that future violations of primary obligations imposed on States Parties by treaty rules on prevention or mitigation of transboundary nuclear harm will entail State responsibility for wrongful acts and the duty of the violator to compensate".

[425] On the careful wording on "injury" in the ILC Draft on State Responsibility, see Commentary and further Crawford, J., J. Peel & S. Olleson, 2001, pp. 973-974.

[426] This would correspond to the understanding above in Chapter 1 that greater risk involves greater need for precautionary measures in order to prevent harm.

the omission of information could therefore lead to responsibility, [427] and this type of breach of obligation could well correspond to standards of strict liability.[428] In short, this could entail a reversal in the onus of proof. A state that neglected its duty to inform would be held liable, without the need for other states to prove the relationship between lack of information and subsequent harm. It would be up to the failing state to prove the non-existence of a contributory effect. The failure to inform of an accident might thus, as it were, augment the liability of a state for the harm that has been caused by an accident originating from the territory, jurisdiction or control of that state.

Both of the above arguments on state responsibility for breach of obligation, whether based on due diligence or stricter standards of responsibility, seem perfectly plausible, always depending on the interpretation given to the standard set in the primary rule. Generally, they are perhaps to be applied, respectively, to most risk situations and to very hazardous activities. According to some writers in the early 1990s the trend may be going from liability based on fault (or due diligence) in the direction of strict liability,[429] particularly regarding ultra-hazardous activities,[430] which may be correct although more recent environmental treaties do not seem to further reinforce the beginning of such a general trend. This is the junction where the confusion between wrongful and non-wrongful acts easily makes an entrance. The arguments on conduct versus result-based responsibility

---

[427] Some writers would call this "objective responsibility", see Pisillo-Mazzeschi, R., 1991.

[428] See e.g., Birnie, P. & A. Boyle, 1992, pp. 143, 149. The *Corfu Channel* case, which based Albania's responsibility precisely on its knowledge of the risk of harm, has sometimes been used to support this view. It does, however, seem much too tenuous an argument, see Handl, G., 1980, p. 537.

[429] On trend towards stricter liability see e.g. ECE, Guidelines on Responsibility and Liability regarding Transboundary Water Pollution, 1.3 1990, ENVWA/R.45, which provide for liability also when due care has been observed:

> 17. Liability of States entails the duty of States to provide or to ensure prompt and adequate compensation in case of damage suffered by other States or persons resulting from a hazardous activity not prohibited by international law performed by them or by persons within their jurisdiction or control. This includes liability in case of damage resulting from accidental transboundary water pollution when standards of due care or due diligence have been observed.

In addition to taking a stand in favour of stricter liability, the ECE Guidelines make relatively far-reaching attempts to define several central concepts. Thus, for instance, the notion of damage is understood to also include the cost of any preventive measures taken in order to prevent or abate pollution (Article 1(m)).

[430] See e.g., Rest, A., 1987 b, p. 62; Doeker, G. & T. Gehring, 1990, pp. 1-4; Rosas, A., 1991, p. 31; but *cf.* Soljan, L, 1989, p. 209, who writes that "western States in particular have never liked the notion of strict liability" and refers to the European Commission's Fifth Environmental Action Programme, which states that liability is a "tool of last resort" to punish despoliation of the environment.

function to blur the issue of state responsibility, which ought only be based on wrongfulness, but, on the other hand, they also point at the exceptional complexity of transboundary environmental problems, which usually spring from perfectly legal activities. Thus a failure to inform, which rests on a duty argued to represent general international law, and which should lead to state responsibility, seems "simpler" a problem than its physical results, the pollution or other harm that it may lead to. Yet a separation of cause and effects in such a situation would be short-sighted, and very demonstrative of the shortcomings of international law to deal, after the fact, with environmental issues. Welcome as efforts towards stricter liability might be, it remains central that the complexity of transboundary pollution cannot be met by the concepts fault or strict liability only, but, as Pinto notes, it "require[s] examination in the light of a variety of factors which can be adequately revealed and significantly applied only through the positive co-operation of States concerned, procured through a regime built with principles of customary law derived from existing treaties and supported by 'an obligation to co-operate'".[431]

In the Sandoz and Chernobyl examples above, no treaty law was available for the establishment of a state duty to compensate for damage caused to neighbouring states. The situations are representative of international environmental law as a whole. While several treaties on the *civil* liability for certain kinds of environmental damage exist,[432]

---

[431] Pinto, M.C.W., 1985, pp. 36-37.

[432] See Wetterstein, P., 1990, pp. 61-62; and see Lee, M., 2000; Granet, M-B, 2001, pp. 795-801; Several of the relevant treaties are not in force and have only a limited number of signatories or ratifications: See e.g. Convention on Third Party Liability in the Field of Nuclear Energy, Paris, 29.7.1960, in force 1.4.1968; Convention Supplementary to the Paris Convention of 29.7.1960 on Third Party Liability in the Field of Nuclear Energy, Brussels, 31.1.1963, in force 4.12.1974 (amended 28.1.1964, in force 16.12.1974); Convention on the Liability of Operators of Nuclear Ships, Brussels, 25.5.1962, not in force; Convention on Civil Liability for Nuclear Damage, Vienna, 21.5.1963, in force 12.11.1977; International Convention on Civil Liability for Oil Pollution Damage, Brussels, 29.11. 1969, in force 19.6.1975; Protocol, London, 19.11.1976, in force 8.4.198; Protocol, London, 27.11.1992, in force 30.5.1996; Convention relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material, Brussels, 17.12.1971, in force 15.7.1975; International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, Brussels, 18.12.1971, in force 16.10.1978; Protocol, London, 19.11.1976, in force 8.4.1981; Protocol, London, 27.11.1992, in force 30.5.1996; Convention on Civil Liability for Oil Pollution Damage Resulting from Exploration for and Exploitation of Seabed Mineral Resources, London, 1.5.1977, not in force; Convention on the Regulation of Antarctic Mineral Resource Activities, Wellington, 2.6.1988, not in force; Convention on Civil Liability for Damage Caused during Carriage of Dangerous Goods by Road, Rail and Inland Navigation Vessels, Geneva, 10.10.1989, not in force; Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment, Lugano, 21.6.1993, not in force; International Convention on Civil Liability for Bunker Oil Pollution Damage, London, 23.3.2001, not in force; Finally, see the International Convention on Liability and Compensation for Damages in Connection with the Carriage of Hazardous and Noxious Substances by Sea (the HNS Convention), London, 3.5.1996, not in force, which

international treaties establishing clear state liability for conduct harmful to the natural environment are very few and far between.[433] Despite their often only partial adherence to the polluter pays-principle, it has been argued that civil liability schemes should not be overlooked.[434] Some of the civil liability schemes provide for residual state liability to pay part of the compensation, to contribute to an international compensation fund, or to ensure the payment of compensation.[435] In fact, the roles of the various actors may partly coincide with or complement each other. The failure to inform of an accident may in practice well be caused by a "chain" of omissions by different actors. This ought to be reflected in the attribution of liability.[436]

Interestingly enough, some governments did reserve their right to make claims regarding the damage created by the Chernobyl accident.[437] Their subsequent unwillingness to act upon the basis of notions of customary law do, however, highlight the political obstacles which have so far been insurmountable for states in fear of reciprocity. Despite the standstill on this issue, it cannot be excluded that future accidents of the same, or lesser, magnitude would give rise to claims for compensation. Although the customary norms may be somewhat difficult to establish, the international legal system today is in search of

---

only has a handful of signatories and two ratifications (1/2002), but which introduces strict liability for the shipowner and compulsory insurance and insurance certificates.

[433] The Convention on International Liability for Damage Caused by Space Objects, 1972, in force 1.9.1972, creates absolute liability for the launching state for damage inflicted on Earth by its space objects. Harm caused by space objects could, of course, be of an "environmental" character, but the Convention only refers to property, health and life.

[434] See further in Betlem, G., 1993; In contrast, according to Sands, P., 1989, p. 409, the "[Paris and Vienna] Conventions are worse than nothing" in terms of environmental protection while they "encourage negligence by telling operators that even if an accident occurs they will be held liable only for a miniscule fraction of its consequences, the remainder to be borne by the governments, citizens and future generations of the operator and neighbouring states". On the 'polluter pays' principle see, e.g., Boyle, A., 1991 b, pp. 363-379; On civil liability in nuclear law, see Lee, M., 2000; and see Granet, M-B, 2001, pp. 795-80.

[435] See generally, Handl, G., 1980, pp. 525-565; For an overview of civil liability schemes and their respective ways of establishing residual state liability, see Rosas, A., 1991, p. 38; Rosas, A. & Z. Brodecki, 1990, p. 18; de La Fayette, L., 1992, pp. 450-451; Handl, G., 1993; Rosas, A., 1994.

[436] Also the issue of liability to compensate for costs arisen due to so-called false alarms is largely unsolved. For false alarms on nuclear accidents, see Ståhlberg, P., 1993, p. 387; But see CBSS: Agreement on the Exchange of Radiation Monitoring Data, Hamburg, 7.6 2001, not in force. Under Article 2 unverified radiation data shall be declared as such and unverified data may not be made publicly available or available to third parties without the consent of the originator. This could play some role in preventing "false alarms" and confusing information exchange.

[437] E.g., Sweden, the Federal Republic of Germany and the United Kingdom. See Sands, P., 1989, pp. 406-407.

effective solutions, and future needs may well prove that the difficulties are both necessary and possible to overcome.[438]

In the meantime, other methods of securing the implementation of environmental law have gained importance. Various institutional techniques have been developed, for instance, in the form of non-compliance procedures, implementation review mechanisms, and reporting procedures, the last of which will be examined in detail in the next chapter. A legal device with some limited relevance for enhancing compliance with accident information duties could be the criminalization of a failure to inform.[439] By introducing criminal responsibility for the failure to inform, states would give more incentive to individuals and corporations to comply with international law. This way, the masters of ships and aircraft, operators of hazardous installations, owners of transport businesses, and so on, would have, as it were, a more personal stake in hazard management.[440]

II.II. In the Work of the International Law Commission

The evidence of the existence in general international law of state liability for harm, without wrongful acts,[441] is considerably more uncertain than that on state responsibility for wrongful acts, which may now slowly be advancing after ILC efforts. Rest noted in 1987 that although a principle of risk liability is not yet perceptible in general international law, "this circumstance cannot [...] entail the categorical denial of a customary international law principle of liability based on fault, because both institutions are currently still in the

---

[438] On alternatives to civil liability in the form of emission charges, abatement agreements and risk penalties, see Sand, P.H., 1999, pp. 79-86.

[439] In contrast, on the issue of international crimes of states, see ILC Draft Articles on State Responsibility, Article 19, and e.g. *Report of the International Law Commission on the Work of Its Fiftieth Session*, GAOR A/53/10, pp. 108-168.

[440] Some international documents and national constitutions refer to the individual's responsibilities vis-à-vis the environment, see further Birnie, P. & A. Boyle, 1992, pp. 206-207; ibid., p. 289 on coastal state powers in relation to Article 211(5) of LOSC and Protocol I of MARPOL; See also the process by the ILC towards a Code of Crimes against the Peace and Security of Mankind, where wilful and severe damage to the environment (draft Article 26) was not included, see e.g. Special Rapporteur Doudou Thiam, *Thirteenth Report on the Draft Code of Crimes Against the Peace and Security of Mankind*, 1995, A/CN.4/466, and see A/CN.4/L.506, A/CN.4/L.509 and *Report of the International Law Commission on the Work of its Forty-seventh Session*, GAOR A/50/10.

[441] In the view of some writers, responsibility is only related to harm or risk of harm, not to the breach of legal obligations. See further Birnie, P. & A. Boyle, 1992, p. 140.

'exception-to-the-rule' and not the 'either-or', or disjunctive, relation". This seems still very much to be the case in the early 2000s.[442] It would be an understatement to say that the legal debate surrounding international liability, in the ILC sense of the concept, has been confusing: it may nevertheless indicate the urgency with which effective solutions should be sought.

It seems of some interest therefore to examine what kind of relationship the ILC has attempted to establish between the accident information duty and state liability.[443] As already discussed in detail above, the work of the ILC has recognized the duty of states to notify on accidents. The argument that the accident information duty is of a customary character or a general principle of law, would normally lead to the ILC topic on state responsibility[444] since the breach of an international obligation should, regardless of its origin or character, imply a wrongful act and lead to the responsibility of the acting state.[445] It is noteworthy that despite the initial character of the information duty as a primary norm,[446] it has been placed by the ILC precisely in the context of "acts not prohibited by international law".[447] This is confusing, as is the whole of the liability topic. The ILC work of the past decades first broadened the meaning of responsibility and liability so that both

---

[442] Rest, A., 1987 b, p. 62.

[443] See also the Convention on the Law of the Non-navigational Uses of International Watercourses, New York, 21.5.1997, not in force, Article 28. On the development of the emergency notification and prior notification duties, see *Report of the International Law Commission on the Work of its Forty-sixth Session*, GAOR A/49/10, pp. 195-326 (see further International Law Commission, 1982, Special Rapporteur Stephen Schwebel: *Third Report on the Law of Non-navigational Uses of International Watercourses*. Article 10, paragraph 9 and see International Law Commission, 1989, Special Rapporteur Stephen McCaffrey: *Fifth Report on the Law of Non-navigational Uses of International Watercourses*. A/CN.4/421, Article 23.), but this does not add anything new to the question of liability for damages caused. See generally McCaffrey, S., 1991, pp. 104-107 and McCaffrey, S., 1995, p. 395-404. See further Rosenstock, R., 1995, p. 392; McCaffrey, S. & M. Sinjela, 1998, pp. 97-107.

[444] See generally Brownlie, I., 1990, p. 120 et seq.

[445] One – false - argument has sometimes been put forward that if the emphasis is put on e.g. the duty to inform *only* as a general *principle* of law - as opposed to a treaty or customary *rule* - then the whole issue becomes softer, and wrongfulness presumably could not arise from a failure to comply with the duty as such. Instead, if the duty is not complied with, and damage occurs to the affected state, then liability for actions may still be the result. This would, however, be a misuse both of the general principle of law label which, in this study, implies norms of a fundamental and, indeed, binding character, and of the principle of state responsibility, which is not dependent on the origin, source, of the legal obligation allegedly breached.

[446] The term "compound primary obligation" used earlier by the ILC consisted also of prevention, negotiation and reparation. See Quentin-Baxter: *Fourth Report*

[447] See, e.g., McCaffrey, S., 1991, pp. 91-92 on the background of the separation of the two issues. See also Akehurst, M.B., 1985, p. 3 et seq.; Pinto, M.C.W., 1985, pp. 19-28; Barboza, J., 1994, pp. 301-318.

included the obligation and its consequences, and then it became very preoccupied with re-organizing the concepts. Indeed, the separation and consequent mixing of the responsibility and liability notions has not gone without criticism,[448] and the Commission itself has recognized the need to clarify the conceptual confusion.[449] This has happened through the development and clarification of the Draft on State Responsibility, but also under the liability heading in a decision to develop first draft articles on prevention and only then to move back to the main topic on liability.[450]

Procedural as the information duty may be, it is thus still connected to damage. In the context of environmental accident information, the objective is minimization or abatement of already started pollution, rather than prevention proper. In the initial Schematic Outline the Special Rapporteur Quentin-Baxter showed a rather odd approach to the failure to inform. Section 2, paragraph 8 concluded that

> [f]ailure to take any step required by the rules contained in this section shall not in itself give rise to any right of action.[451]

Thus, the idea was that a failure to inform of a critical situation would not constitute a wrongful act giving rise to state responsibility for breach of obligation. Under the Schematic Outline, however,

> [r]eparation shall be made by the acting State to the affected State in respect of any such loss or injury, unless it is established that the making of reparation for a loss or injury of that kind or character is not in accordance with the shared expectations of those States.[452]

The notion of "shared expectations" was truly vague. Could all Chernobyl-type nuclear reactors be expected to be so poorly constructed or operated that they inevitably give rise to

---

[448] See Boyle, A., 1990 a, pp. 1-17; Birnie, P. & A. Boyle, 1992, pp. 139-141; Tomuschat. C., 1991, pp. 37-72.

[449] "The Working Group... noted that the scope and the content of the topic remained unclear due to such factors as conceptual and theoretical difficulties, appropriateness of the title and the relation of the subject to 'State Responsibility'." *Report of the International Law Commission on the Work of its Forty-ninth Session*, GAOR A/52/10, p. 130.

[450] Ibid, p. 130-131.

[451] ILC, Quentin-Baxter: *Fourth Report*; 1983 ILC *Yearbook*, vol II, pt. I, p. 201; Section 2, paragraph 8.

[452] Ibid, Section 4, para. 2.

radiological safety problems? Since the Schematic Outline and subsequent reports expressly referred to lawful activities, great emphasis was placed on the balancing of interests of the states concerned, thus providing for relative rather than absolute obligations.[453] The failure to provide information was still connected with some consequences related to the burden of proof:

> To the extent that an acting State has not made available to an affected State information that is more accessible to the acting State concerning the nature and effects of an activity, and the means of verifying and assessing that information, the affected State shall be allowed a liberal recourse to inferences of fact and circumstantial evidence in order to establish whether the activity does or may give rise to loss or injury.[454]

This must have been meant to be understood as a minimum benefit for the potentially-affected state, which had perhaps been unable to take preventive measures because of lack of adequate information.

The second Special Rapporteur to the ILC, Mr. Julio Barboza, introduced some new elements into the work.[455] His emphasis first moved from liability based on due diligence and breach of obligation towards strict liability as the main basis for the reparation duty.[456] The provision that liability arises when an injurious activity is not merely under the jurisdiction of the source state, but is also under its "effective control" led to some confusion as Quentin-Baxter used the term control to denote jurisdiction, whereas Barboza appears to have meant "ability to regulate".[457] The inclusion of the "appreciable" threshold for risk[458] was noteworthy, as well as the widening of the scope of the Schematic Outline by including both "the low probability of very considerable (disastrous) transboundary

---

[453] Ibid, Section 5. See also Levy, R.E., 1989, p. 661.

[454] Ibid, Section 5, para. 4.

[455] See generally McCaffrey, S., 1991, pp. 95-97.

[456] ILC, Special Rapporteur Julio Barboza: *Second Report on International Liability for Injurious Consequences Arising Out of Acts Not Prohibited by International Law*, 1986, para. 42-69. A/CN.4/402, (cited as Barboza: *Second Report)*. On the notion strict liability, see further Handl, G., 1988 b, pp. 237-242.

[457] See McCaffrey, S., 1991, pp. 97-98.

[458] See ibid, p. 96.

injury and the high probability of minor appreciable injury".[459] Thus both slow environmental degradation and Chernobyl and Sandoz-type situations were included.

Secondly, the question of a remedy for the breach of a procedural obligation took a slightly different tone. In his *Second Report*, Barboza proposed that the provision establishing that failure to fulfil procedural obligations would not give rise to any right of action would be omitted from the text.[460] He pointed out that the proposed omission would not imply that failure to comply with procedural obligations would give rise to a right of action. Partan noted, in 1990, that the inclusion of a right of action for failure to fulfil, in his example, the information duty, would make it difficult for the ILC to reach a consensus in support of the liability rules.[461]

In the *Sixth Report*[462] by Barboza, Draft Article 18 dealt with the issue as follows:

> Failure on the part of the State of origin to comply with the foregoing obligations shall not constitute grounds for affected States to institute proceedings, unless this is provided for in other international agreements in effect between the Parties. If, in these circumstances, the activity causes [appreciable] [significant] transboundary harm which can be causally attributed to it, the State of origin may not invoke in its favour the provisions of article 23.

The hopes of the Special Rapporteur were thus not fulfilled as the ILC kept the view that non-compliance should not be sufficient basis for cause of action.[463] The Special Rapporteur did, however, think that some consequences should be attached for non-compliance in order to give states incentives to comply. To that end, Article 18 provided for a strengthening of the procedural duties through the inclusion of the prohibition to invoke Article 23 on the reduction of compensation payable to the affected states. Evidence thus

---

[459] ILC, Special Rapporteur Julio Barboza: *Fifth Report on International Liability for Injurious Consequences Arising Out of Acts Not Prohibited by International Law*, 1989, Art. 2, A/CN.4/423, (cited as Barboza: *Fifth Report*).

[460] ILC, Barboza: *Second Report*, para. 39.

[461] Partan, D.G., 1990, p. 174.

[462] ILC, Barboza: *Sixth Report*,, Article 18.

[463] Some members seem to have expressed concern over the possibility that Draft Article 18 would be interpreted as denying a right of action under particular treaties or otherwise outside of the Articles, such as under customary international law, ILC, Barboza: *Sixth Report*, p. 27.

became more important. As the Special Rapporteur expressed it, the refusal to fulfil a preventive duty would "shift the presumption to [the acting state's] own disadvantage".[464] The consequence of a failure to inform would be a shift, perhaps partial, in the burden of proof. States failing to inform would themselves have to show that their lack of action had not caused further harm. This was an effort by the Special Rapporteur to give procedural duties some "teeth".

Smith argued that a failure to "take the requisite procedural steps [...] might well suggest 'blameworthiness' affecting the measure of apportionment of reparation".[465] The work of the ILC also reflected that there were some members who found a shift in the burden of proof insufficient, and who saw a need to elaborate a regime with more significant consequences for failure to comply with procedural obligations. One understanding of such consequences was the creation of responsibility for breaches,[466] thus, once again, making the ILC work come full circle. This reflected notions prevalent already in the *Corfu Channel* case. The focus was also on the question of what forms of satisfaction would be applicable.[467]

After its 1992 session, the ILC reached something of a standstill on the liability issue in favour of considerations of preventive measures.[468] In 1995, the ILC provisionally adopted Article C, its very first article relating to liability and reparation.[469] The article did not give any indication of how the failure to fulfil procedural duties, such as one on accident information, would come to relate to liability under a future final Draft. As already

---

[464] ILC, Special Rapporteur Julio Barboza: *Third Report on International Liability for Injurious Consequences Arising Out of Acts Not Prohibited by International Law*, 1987, para. 179, A/CN.4/405 (cited as Barboza: *Third Report*).

[465] Smith, B.D., 1988, p. 82.

[466] See ILC, Barboza: *Sixth Report*, discussion around the proposals by the Special Rapporteur, A/CN.4/L.452, p. 27.

[467] As pecuniary compensation might be superfluous or impossible to demand, other methods might prove more successful. E.g. Stuckey suggested both traditional economic sanctions and such methods as the exclusion of a state from its position in an international organization, Stuckey, C.D., 1988, p. 711.

[468] ILC, Barboza: *Eighth Report*, p. 6: "All these chapters [including chapter IV on state liability] are, as stated earlier, merely exploratory, and the new Commission should forget them for the moment".

[469] In 1995 the ILC adopted on first reading four articles related to general principles: Article A (Freedom of action and the limits thereto), Article B (Prevention), Article C (Liability and reparation and Article D (co-operation), A/CN.4/L.511/Add (for earlier Drafting Committee version see A/CN.4/L.508).

mentioned above in relation to the foundations of the duty to inform, the Special Rapporteur, Mr. P.S. Rao, has continued the effort to finish first the work on prevention. His second report in 1999 did, however, include a short survey on how the liability issue has developed in treaty law,[470] but the Commission decided to defer the topic of liability until completion of the second reading of the articles on prevention. One of the most interesting developments in relation to liability has been the opinion of Special Rapporteur Rao, that deleting the words "acts not prohibited by international law" might secure a greater consensus for the draft articles. In his view, such a deletion would not make it imperative to review the provisions of the draft articles: if an activity was illegal, the draft articles ceased to apply and it became a matter of State responsibility.[471] Clearly, the Special Rapporteur has been sensitive to the wide criticism that the topic and its conceptual difficulties has met.[472] The 2001 session finally adopted a preamble and 19 draft articles, with commentaries, on "Prevention of Transboundary Harm from Hazardous Activities",[473]

---

[470] ILC, Special Rapporteur P.S. Rao, *Second Report on International Liability for Injurious Consequences Arising out of Acts Not Prohibited by International Law (Prevention of Transboundary Damage from Hazardous Activities)*, 1999, A/CN.4/501 (cited as ILC: Rao, *Second Report*).

[471] *Report of the International Law Commission on the Work of its Fifty-second Session*, GAOR A/55/10, p. 275 and 280.

[472] See e.g. Lefeber, R., 1996, p. 226: "there are neither treaties in force nor other instances of consistent State practice that support the procedural approach to liability *sine delicto* as envisaged by the Special Rapporteur". The Special Rapporteur himself refers to this criticism, ILC: Rao: *Second Report*, p. 22.

[473] Report of the International Law Commission, Fifty-third session, 23 April-1 June and 2 July-10 August, 2001, GAOR, Fifty-sixth, Suppl. No 10, A/56/10, ch. V, pp. 366- 436, at http://www.un.org/law/ilc/reports/2001/2001report.htm. The articles contain one rather interesting feature relating to the omission of risk information (as opposed to accident information). Article 11(1), which is essentially a consultation provision, stipulates that:

> 1. If a State has reasonable grounds to believe that an activity planned or carried out in the State of origin may involve a risk of causing significant transboundary harm to it, it may request the State of origin to apply the provision of article 8. The request shall be accompanied by a documented explanation setting forth its grounds.

This is not a non-compliance procedure as it does not preclude whether the state of origin has failed to comply with its notification duty or whether it has considered itself not bound by the duty to notify. It is also not meant to be misused by neighbouring states, but well-documented and based on reasonable grounds. The 1998 commentary to the Article merely calls this provision a "second look" at the circumstances, and it is meant to lead either to a report under Article 8 or to consultations on the issue. It has been given some teeth however, by providing in Article 11(3) that the state of origin not only introduces appropriate and feasible measures to minimize the risk, but also, where appropriate, suspends the activity for a reasonable period. The elaboration of this type of consultation provision by the ILC and some environmental treaties (e.g. Convention on Environmental Impact Assessment in a Transboundary Context, Article 3(7); Convention on the Law of the Non-Navigational Uses of International Watercourses, Article 18) is perhaps best seen as acknowledgements of the principles of cooperation and precaution (as EIA procedures). *Cf.* to earlier drafts in *Report of the International Law Commission on the Work of Its Fiftieth Session*, 1998, GAOR A/53/10, pp.

and it remains to be seen how the Commission will eventually re-start its work on liability. It may not be too far-fetched to make the argument that the weakness of present liability schemes, including the conceptual confusion created by the ILC, has made it necessary to develop other, often in principle weaker, procedural ways of enhancing state compliance with rules on environmental protection.

2.4. An Assessment

There appears to be widespread acceptance of the norm in international law that states are under a duty to give immediate notification and information of physical danger originating from their territory, jurisdiction or control. Dozens of multilateral treaties provide explicitly for duties to inform on environmental accidents, numerous bilateral agreements regulate the same issue, and many international instruments of a soft law nature seem to reinforce this norm, which is now well grounded in general international law. The 1992 Rio Declaration stands out as the most widely- accepted document, and state practice and *opinio juris* further support the existence of a customary rule for states to give accident information. Although the Chernobyl and Sandoz accidents were dramatic and awakening examples of the risks of industrial undertakings, states appear to share accident information more readily than they withhold it. According to Handl, "[e]xperience with nuclear risk management suggests that relative to accident prevention, states view the "internationalization" of the accident control phase of hazard management as a less sensitive development, as less of an encroachment on what they may consider their sovereign prerogatives".[474] It is possible that humanitarian considerations play a decisive role at this juncture, as they enjoy a deeply rooted conviction of necessity.

The minimum contents of the accident information obligation are: firstly, that it is owed by one state to another, and although the duty belongs primarily to the state of origin of an accident, all states are under the preventive obligation to warn other states about potential transboundary environmental accidents of which they possess knowledge. Secondly, the

60-62 and *Report of the International Law Commission on the Work of its Fifty-second Session*, GAOR A/55/10, pp. 276, 283-289.

[474] Handl, G., 1989, p. 108; According to Francioni "[s]tates appear to feel a stronger duty to co-operate... in cases of serious potential *harm*, even if the *risk* is very tenuous, than in the opposite cases of high risk of pollution when the environmental damage that is likely to occur is not very serious or grave", 1991, p. 208.

duty has some qualifications attached to it: it must be timely, relevant, comprehensive and comprehensible. Thirdly, the question of objective thresholds for activating the duty is still unsettled, but at the same time, the qualification of mere risk of transboundary effects may be sufficient when the consequences could be serious, and growing considerations of precaution give increased weight to this argument. Fourthly, the information duty is not wholly unrestricted, but may be subject to limitations of, for instance, national security concerns.

The state accident information duty is a procedural yet primary norm of international environmental law, and its particular strength is that it appears to be covered by a broad variety of normative sources of law. Besides customary law, the accident information duty can be regarded as a general principle of law, possibly drawing normativity from national legal orders. Thus, the question of rapid and reliable environmental information is one that highlights the tension between consent and lack of the same, a strain fully present in the making of international law on the environment.

A failure to provide accident information should, indeed, lead to state responsibility for a wrongful acts and entail subsequent liability. The lack of success in resorting to the law of state responsibility and in developing functional liability schemes is perhaps a sign of the marginal role of public international law as a means of pollution prevention. More trust should perhaps be given to NGOs, especially in the context of mitigating harm to the global commons, but to be meaningful such often-voiced general assertions need more flesh on their bones. Surely, more obligations could be placed on individuals and private industry. This could, if one wants to take a traditional positivist stand, be done through efforts of criminalization of failures to inform, and importantly, through greater emphasis on funding and the quality of transfers of technology to developing countries. Also the role of the mass media is crucial for the truthful and efficient disclosure of information on accidents.[475] There is the consideration that the media may now often be faster disseminators of environmental information than states. On the other hand speed is only one criterion of good information, and there may be risk of chaos and disproportional public fears due to immature news. Nevertheless, the positive and successful role of the media is again one

[475] See further Sands, P., 1995, p. 612.

possible indication of a marginalized role of international law – in the form of information duties - in enhancing environmental protection.

Although one might generally argue that the state-to-state approach is hopelessly outdated and a slowing factor in the process of environmental protection, efficient accident information may, on the contrary, be dependent on strong, centralized institutional structures. States have resources that other actors do not. Only one's imagination sets the limits to the technological measures that could, one day, replace the present systems of providing environmental information. The most technology-optimistic may dream of fully automatic control systems, but even a small portion of doubt amidst technology belief functions to remind about the inevitability of human political will. States, not surveillance satellites and computerized communications systems, are still the main actors of international law, and they carry the burden of the information duty. It is possible that the greatest incentive for states to share information is that the cost of "mere" information is negligible compared to the contribution it gives as an easy initial step in the co-operation between states. The alternative to shared accident information is the even greater cost of silence and subsequent loss in credibility.

As to the functions of accident information, writers - often from fields of the social sciences other than law - sometimes use the Chernobyl accident as a lesson for the future of hazard management, that is, as a positive endeavour to learn to deal with future accidents.[476] Information flows are seen as central in such managerial approaches. Extremely optimistic, the ILC even sees contingency measures or measures of preparedness as prevention *or precaution*.[477] To call information after an accident precaution would be taking the concept not beyond its possible, still flexible, limits, but certainly to the far end of credible interpretation. It is a caution, not a pure *pre*-caution. Yet the greatest frustrations connected to those preventive procedures that information and notification duties

---

[476] "(W)hile some scholars conclude that technological accidents can be prevented if certain conditions are met, and others suggest that accidents are inevitable in complex and tightly coupled systems, few would dispute the claim that some accidents are unfortunately likely to occur in countries or sectors where, for example, overconfidence may undermine prudent management of risky operations and products, or where scarce economic resources and political instability prevent safety from being a sufficiently high priority. Therefore, the analysis of the responses to, and learning from, major accidents is a task that must be continued." Liberatore, A., 1999, p. 23.

[477] *Report of the International Law Commission on the Work of its Fifty-second Session*, GAOR A/55/10, p. 277.

(especially post-accident or activity) represent is that one cannot be quite convinced that they always make a difference for the environment. This hesitancy would not come from a lack of trust in the judgment of the ILC, but from the fact that there is so little concrete evidence that information would have really ameliorated the plight of the *environment*, as opposed to helping single animals (e.g. out of an oil-slick) or as opposed to humanitarian help (e.g. to radiation victims).

As argued above, the dogmatic bases of different information duties are readily discernible. But rather than serving as a positive learning opportunity for the future, the "lessons" of the Chernobyl accident and following legal actions are depressing. Granted, the accident furthered the cause of legal development of duties to inform, but it also powerfully underlined the weaknesses of the other end of international law, that of responsibility after the fact. Now true sadness would set in if both the weakness of international law *and* doubts about the environmental effects of information had to be accepted at the same time. The relative lack of options given by international law may be one (of perhaps many) reason(s) for the need for a managerial attitude, and it is easy to be sympathetic towards it. The idea of Special Rapporteur Rao of the ILC that prevention would be "essentially a question of the management of risk"[478] would have sounded unfamiliar a few decades ago, but it well reflects the mood of the 1990s and still remains very much valid in the early 2000s. Certainly, the years after the accident showed evidence of a strong managerial ethic, where great efforts were put into creating and analysing procedural tools for environmental management. This theme continues in the next chapter on peer review.

---

[478] ILC: Rao, *Third Report*; see *Report of the International Law Commission on the Work of its Fifty-second Session*, GAOR A/55/10, p. 275.

3. TO SUPERVISORY INFORMATION EXCHANGE...

3.1. Introduction

The "state information duties" discussed above are focused on the individual state and its obligations *vis-à-vis* other states. A duty to inform is "activated" when there is special need for it, before the start of a project that could harm another state or in accident situations. This may be either treaty-based or customary. In contrast, the starting point for a supervisory method is always a treaty. By far the most frequently used, and perhaps the least sophisticated,[479] supervisory method is "reporting", that is, a form of self-assessment and peer review where the parties to environmental treaties submit information, which then functions as evidence, on how they and their peers have implemented and complied with the treaty in question.[480] Different inspections and fact-finding missions are still more unusual ways of verifying other states' treaty compliance.[481] Although some might see mere symbolic value in going through the motions of supervisory information exchanges, states frequently include provisions on information gathering and assessment in treaties, and this type of "verification" is widely assumed to have a positive influence on the behaviour of states.[482] According to Alston, in the human rights context, for several

---

[479] For an early argument to this effect, Fischer, D.D., 1984, p. 166.

[480] Sand P.H., 1999, pp. 276-277, writes that "the implementation of agreements or instruments has mainly been influenced by such factors as financial resources, technical and scientific assistance, public information and national reporting duties. By contrast, international supervisory bodies, non-compliance procedures and dispute settlement procedures so far have not played a major role"; NB his separation of reporting duties from NCPs.

[481] International law and cooperation know of several types of fact-finding, which will not be dealt with below, e.g., various inquiry procedures, conciliation commissions, truth commissions, the role of the UN Secretary General, various rapporteurs under (esp. human rights) treaties, election monitoring, and monitoring of political or other trials.

[482] See CNS: *Summary Report of the Contracting Parties' First Review Meeting*, 1999, see NUSAFE: www.iaea.org/worldatom/Documents/Legal: " The Contracting Parties furthermore observed that the self-assessment process, starting with ratifying the Convention and preparing a National Report, had already initiated steps and measures by many Contracting Parties to improve implementation of their obligations", p. 2; And see Pawlak, S., 1991, p. 143; See also e.g. Ferreira, V., 1992, p. 279 for the conviction that the review of reports can ensure compliance; Fischer, W., 1992, p. 284: "verification, if properly formulated, leads to confidence [...] and can lead to more co-operation". Fischer uses the familiar arguments found in game theory for the need for verification, and makes the argument that most environmental treaties represent so-called co-ordination games which need low intrusiveness in verification, whereas climate change, being such a complex issue, lies somewhere between a co-ordination game and a dilemma game and therefore has a higher demand for intrusiveness. An arms control agreement would be a full-fledged dilemma type game, p. 283. On this issue, see also di Primio, J.C., G. Stein, H.F. Wagner, 1992.

reasons, "the very act of reporting is significant".[483] This chapter tries to explore whether the same could be said for reporting under environmental treaties, that is, whether reports could be said to accumulate relevant environmental information and how, if at all, it might influence the evolution of international law on the environment.

In the words of one writer in the early 1990s, what we need is "less the adoption of new instruments than more effective implementation of existing ones".[484] And, similarly, in the context of human rights law, two authors in the year 2000 wrote that "the overriding challenge for the future is to develop the effectiveness of [...] monitoring mechanisms".[485] Agenda 21, adopted at UNCED in 1992, had already urged states to establish "efficient and practical reporting systems on the effective, full and prompt implementation of international legal instruments"[486], and in the same vein, the ECE Lucern Ministerial Declaration urged states to elaborate non-compliance procedures (NCPs) in relation to environmental treaties. NCPs were meant to avoid complexity, be non-confrontational and transparent, leave competence for making decisions to the determination of the contracting parties, allow contracting parties to consider what technical, technical-legal[487] and financial assistance may be required within a specific treaty and, finally, to include a transparent and revealing reporting system and procedures as agreed to by the parties.[488] This 1990s trend – still very much continuing - in both state practice and academic interest to stress effectiveness, implementation, compliance[489] enhancement or elicitation,[490] verification,[491]

---

[483] Alston, P., 2000, p. 524: "the very act of reporting is significant, as is the process of defending the report and responding to questioning. Similarly, even where the position of a government remains clearly unmoved by the entire process, the government itself should not be seen as the sole actor of importance. Opposition groups, civil society in general, the media, regional and international organisations and other states can all draw significant inferences from the critical conclusions drawn by the treaty bodies."

[484] Koskenniemi, M., 'Breach of Treaty or...', 1992, p. 123.

[485] Alston, P. & J. Crawford eds., 2000, Editors' Preface, p. xv.

[486] Agenda 21, Rio de Janeiro, 13.6 1992, UN Doc. A/CONF.151/26, chapter 39, para. 8(a).

[487] Further on methods of legislative assistance and the transfer of legal-institutional innovations, see Sand, P.H., 1999, pp. 241-252.

[488] Declaration by the Ministers of the Environment of the Region of the United Nations Commission for Europe and the Member of the Commission of the European Communities Responsible for the Environment, Lucern, 30.4.1993, 7, para. 22.1; See further Handl, G., 1994, p. 327.

[489] In legal literature and international documents alike the two terms are often used without prudent differentiation. At the UNCED in 1992 a proposal for Chapter 39, para. 7(a) (now 8(a)) on Implementation Mechanisms in Agenda 21 mentioned the term "compliance with international legal instruments", but the

supervision[492] and monitoring[493] of international obligations are the typical means of establishing the accountability[494] of states *vis-à-vis* their environmental commitments, and, at the same time, concrete manifestations of a "managerial ethic" in environmental protection.

---

wording was changed into the seemingly wider "effective, full and prompt implementation". The latter term often refers to a state's measures to make an international treaty applicable or enforceable under national law, that is, initial "paper-implementation". In a further distinction made by Jacobson and Brown Weiss, compliance may be understood to involve a change in behaviour of the targeted actors, Jacobson, H. & E. Brown Weiss, 1994, pp. 4-6; Jacobson, H. & E. Brown Weiss, 1995, pp. 119-; Also Brown Weiss, E., 'New Directions...', 1995, p. 8.

[490] Different verification methods may elicit compliance more or less effectively, or not at all. The terms used for describing elicitation processes partially overlap with classifications of verification. For instance, elicitation of compliance could be categorized as 1) reporting procedures, 2) implementation review mechanisms, and 3) mechanisms of response to non-compliance, see Breitmeier, H. *et al.*, 1995, p. 9. Thus, reporting could fall into both verification and elicitation, whereas some other forms of verification might be included in various review mechanisms; See generally Fox, H. & M.A. Meyer, eds., 1993; Kummer, K., 1994; Fleischhauer, C-A., 1995.

[491] The term verification (of compliance) is brought from international disarmament law. No exact legal definition of verification exists, see Pawlak, S., 1991 , p. 129.; The UNGA (Principle 13, General Assembly Resolution 43/81 B., 1988) has referred to verification as:

> Verification of compliance with the obligations imposed by an arms limitation and disarmament agreement is an activity conducted by the Parties to an arms limitation and disarmament agreement or by an organization at the request and with the explicit consent of the parties, and is an expression of the sovereign right of States to enter into such arrangements.

Verification involves the collection of information, analysis of the received information and a determination of compliance or non-compliance, see UN Doc. A/45/372, 28.8.1990, p. 28; In Sur's definition, the term includes at least the establishment of facts, their legal assessment in relation to a certain norm and the political reaction to a determination of a violation of an international norm, Sur, S., 1988, p. 7; In human rights law the terms prefered to verification are usually supervision or control.

[492] In the context of environmental law, just as in disarmament law, the term verification is often seen as the main term describing supervision or control over state compliance. Considering the non-intrusive character of reporting methods, and the fact that many terminological choices exist, "verification" is rather ill-suited as the term of choice when one explicitly wants to put this type of supervision into a broader context of accumulation of environmental information. If, on the other hand, the challenging view that supervisory information exchange is of little value persists in the end, then there may be a case for new policy calls for "true verification". Nonetheless, in order to indicate the terminological nuance and the confusion alike, supervision along with all other possible words and related concepts appear in this text. Generally, see Blokker, N. & S. Muller, 1994.

[493] Monitoring is often done by technical means, such as satellite surveillance, and it aims at the collection of concrete information on the physical state of the environment. See e.g. the multifaceted work of the European Environment Agency (EEA), including its reports on the state of the environment in the EU, e.g. EEA: *Environment in the European Union and the Turn of the Century*, Luxembourg, 1999. And see Handl, G., 2001, p. 102-104; Sometimes, however, the same term is used, also in environmental law, for administrative or expert or other supervision, see e.g. P.C. Szasz, 1999.

[494] See Alston, P., 1996, pp. 24-27, where he notes that it is not the respective terms supervision, monitoring, verification, etc., which change in meaning over time and context, but the principle of accountability that ought to be focused on.

Whether the political outcomes of supervisory mechanisms can correspond to the actual needs of compliance enhancement remains a subject of contention, and a subject which criss-crosses several disciplines: legal, political, economic, even historic, sociological, statistical and many others, obviously including the natural sciences. The complexity, and vagueness, of such concepts as treaty "efficiency",[495] "effectiveness"[496] and "change" in state behaviour has given birth to much confusion and incompatibility in recent research. So, while serving as a reminder about intricacy, this compels the legal writer to be cautious in dealing with the causal links and interaction between international law and this maze of state behaviour and social sciences. The aim of this chapter is thus not to search for proof of the cause and effects in the common dilemma of whether supervision enhances compliance; it is simply assumed that supervision does have at least some positive effect, and such potential positive functions shall be discussed.

Reports – the main objects of this chapter - include information both on administrative or legal measures in relation to a treaty, or physical data either on the environmental effects of those treaty-based measures or other information on environmental behaviour in a state. Reports are based on the initial consent of states to participate in a given treaty system. Therefore they are not "forced" upon states, but rather they represent a reciprocal and "soft", non-adversarial method of furthering the common aim of a treaty. In environmental treaties reporting procedures may either exist alone or be part of more specifically pronounced NCPs. Finally, it may also be noted that procedural norms are sometimes the object of supervision, i.e. states also report on how they have fulfilled various information requirements. If a state does not report, the reporting obligation itself then becomes unfulfilled. Reporting *procedures* generally represent primary norms in international law, although the distinction between primary and secondary becomes somewhat blurred in that

---

[495] For a discussion on efficiency (Pareto and Kaldor-Hicks) and effectiveness (sufficient funding; appropriate allocation of compensation; appropriate forms of compensation) in the context of the Biodiversity Convention, see Jenks, D.T., 1995, pp. 647-648 and 659-664.

[496] See e.g. Sand, P.H., 1992; Wettestad, J., 1992, pp. 101-121; Haas, P.M, R.O. Keohane & M.A. Levy eds., 1993; Skjaerseth, J.B., 1993, pp. 313-334; Susskind, L.E. 1994; Susskind, L.E., 'What Will It Take...', 1994; See also *The Effectiveness of Multilateral Environmental Agreements - A Report from a Nordic Project*, Copenhagen: Nordic Council of Ministers, *TemaNord* 1996:513, pp. 5-6; Effectiveness essentially refers to the outcome of a certain action as compared to the goals set out for the action. On the one hand, a treaty can be effective or ineffective in reaching its stated goals. It may be ineffective even if states Parties comply with the treaty, see Jacobson & Brown Weiss, 1994, pp. 4-6. On the other hand, a state may be in compliance with a treaty to a certain degree, that is, it may reach agreed goals only partially and to varying degrees over time.

such procedures function precisely for the sake of controlling the implementation of and compliance with other "truly" primary norms.[497]

But supervision can go further than reporting to include outside control over state action by means of fact-finding missions and inspections,[498] all still under the treaty provisions. The furthest developed inspections mechanisms with environmental relevance are found under the IAEA's Safeguards Inspectorate, which is primarily aimed at verifying that nuclear installations are used for peaceful purposes, and which now, in a new system called "integrated safeguards", also uses environmental monitoring techniques and satellite telecommunications systems in addition to classical verification methods.[499] An early example of environmental on-site inspections would be found in the 1974 Nordic Environmental Protection Convention.[500] Just as several types of state information duties were treated as "side products" to the accident information duty in the previous chapter, the discussion below on reporting procedures will also touch upon some of these other forms of supervisory information gathering. Supervisory mechanisms, whether called verification, monitoring, control, compliance enhancement, peer review or something else, are treated as part of the broader context of environmental information exchange between states. The shortcomings of state responsibility, the problem that third party settlement of disputes does not necessarily function in the solving of complex polycentric environmental issues,[501] or the absence of effective enforcement mechanisms may offer *some* explanation

---

[497] On the distinction between primary and secondary norms in relation to verification, see Rosas, A., 'The Concept...', 1991, p. 1-2.

[498] See Memorandum of Understanding on Port State Control in Implementing Agreements on Maritime Safety and Protection of the Marine Environment, Paris, 1982; and Convention for the Mutual Recognition of Inspections in Respect of the Manufacture of Pharmaceutical Products, Geneva, 1970.

[499] The IAEA has some 220 nuclear safeguards agreements with 139 states and it carries out some 2500 inspections in over 900 facilities each year (in 2001). Classical methods include tamper-resistant metal seals, surveillance cameras, and analytical instruments to verify e.g. accounting of nuclear materials. See Treaty on the Non-proliferation of Nuclear Weapons, London, Moscow, Washington, 1.7.1968, in force 5.3.1970; and Additional Protocol 1997. Further on recent developments of the verification mechanism to include more environmental aspects, see http://www.iaea.org/worldatom/Press/News/sgarticle_01.shtml, and on training of inspectors see 43(1) *IAEA Bulletin* 2001, pp. 41-43; In human rights; on visits to states under the CAT inquiry procedure, see Bank, R., 2000, pp. 166-167, 169-172.

[500] Nordic Convention on the Protection of the Environment, Stockholm, 19.2.1974, in force 5.10.1976; The Convention is most famous for its provisions on transboundary litigation and equal access, see generally, Phillips, Ch. 1986, p. 155-; Broms, B., 1986, p. 141-; Brunnée, J., 1988, pp. 171-17

[501] See further Sand, P.H., 'New Approaches...', 1991, pp. 193-206; generally Sand, P.H., 'Transnational...', 1991; and on reasons for why traditional adjudication may be ill-suited to solve international environmental problems see Wirth, D., 1994, p. 779; and Chayes, A. & A. Chayes, 1995, p. 205; and Knox, J.H., 2001, pp. 7

to the question why pragmatic, alternative methods, NCPs, have been developed for non-compliance, but not to the qualitative question whether the managerial supervisory methods offer good ways of environmental information accumulation. The managerial trend holds the potential to tell us something about the state of international law in general and international environmental law in particular. The pertinent question is thus what role, what strengths and limits, these types of information schemes might have for the development of international law on the environment.

Outside of environmental treaty law remain many types of information gathering or "verification" done by single individuals, non-governmental organizations,[502] enterprises, or states (individually or in cooperation with others),[503] be they legally made observations or illegal spying.[504] Obviously some of the most valuable information about the global environment comes from sources derived other than through the immediate application of environmental treaties, and most notably through different uses of satellites and other recent monitoring technology, whose original uses may have been other than environmental.[505] Depending on the state in question, it may or may not make use of independent data also to fulfil its own treaty-based information sharing requirements. Perhaps the most noteworthy international effort outside individual treaties is UNEP's "Earthwatch" workplan for its sub-programme on environmental assessment and reporting. It is a comprehensive programme (which would be worthy of extensive research) focused on sensing, reporting and early warning for integrated information management and dissemination of environmental analyses, nationally and regionally. Assessment and reporting is mainly based on the Global Environment Monitoring System, GEMS, and the

---

et seq. on such reasons and also for an argument for the relevance of some types of supranational adjudication based on private claims against states in international tribunals.

[502] E.g. on the role of NGOs in relation to monitoring environmental problems and bringing transparency into governmental decision-making in India, see Ranjan, S., 2001, p. 94.

[503] An example is provided by the Arctic Council's Arctic Monitoring and Assessment Programme (AMAP), which includes both a Trends and Effects Programme and a Strategic Plan (both now for 1998-2003) to be implemented through National Implementation Plans on diverse issues concerning the Arctic environment. See esp. *The AMAP Assessment Report: Arctic Pollution Issues*, 1998, at http://www.amap.no.

[504] "Spy Satellites for Environmental Monitoring", 26/2/3 *Environmental Policy and Law* 1996, p. 107.

[505] E.g. the European Space Agency's (ESA) *Envisat* was launched 1.3.2002 to gather environmental data, including data on stratospheric ozone, temperature and climate change, the state of the oceans and coastal regions, etc., look at http://www.esa.int/export/esaCP/index.html; And see NASA's *Terra* satellite (launched 18.12.1999), from which images are available to large numbers of researchers worldwide, at http://eos-am.gsfc.nasa.gov/.

State of the Environment Unit; data harmonization, management and dissemination are handled through the Global Resource Information Database, GRID;[506] institutional capacity-building and servicing is done through regional networks; and management and coordination of it all by the UN system-wide Earthwatch coordination facility.[507]

Reporting mechanisms as such are nothing new in public international law.[508] In disarmament law, reporting procedures are generally too weak and unsatisfying as main methods of verification.[509] Disarmament and arms control treaty systems may, however, offer models for other stronger verification procedures that could be of some use for the environmental area.[510] The well-developed reporting procedures found in global human rights treaties,[511] on the other hand, show greater similarities – in strengths and weaknesses

---

[506] See http://www.grida.no for access to environmental information open to the public. And for environmental information relating to the European Union, see the EIONET of the European Environment Agency (Council regulation 1210/90 of 7 May 1990, *OJ* L120), http://www.eea.eu.int/

[507] www.unep.ch/earthw; and UNEP: *'Earthwatch' Workplan for the Environmental Assessment and Reporting Sub-programme of UNEP*, Nairobi, March 1994; and see Gosovic, B., 1992 on background to both GEMS and GRID.

[508] For compliance and monitoring issues in international humanitarian law, see, e.g., Drzewicki, K., 1989, pp. 109-131; Rosas, A., 'International Monitoring...', 1993, pp. 221-246.

[509] According to Lang, W., in P. Szasz, ed., 1999, "compliance control/monitoring in respect of disarmament and environmental treaties have little in common", p. 258.

[510] Orava, S.J., 1992, pp. 151-176; The imbalance of financial resources makes the environmental polarity very different from its Cold War disarmament counterpart. In the latter, the big East-West powers, which agreed on mutually controlling each others weapons arsenals, were each others close equals, i.e., both had over-kill capacity in weapons, and both therefore had something to negotiate on giving up. In short, they could "afford" verifying and cutting down as long as it happened evenly. In the environmental arena, states are not, apart from the rhetoric of sovereignty, each other's equals because they pollute differently, they use/have access to different resources, they are of very different financial, technological and know-how abilities, etc.; But for post-Cold War verification, see esp. Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction, Paris, 14.2.1993, in force 29.4.1997; Generally, see Dorn, A.W. & D. Scott, 1995; and further see Bothe, M., N. Ronzitti and A. Rosas, eds., 1998.

[511] Just as in environmental law, issues of implementation, compliance, monitoring and supervision – i.e. accountability – have been a main focus of research, but timewise one step ahead in the human rights area (and humanitarian law, see. e.g. Drzewicki, K., 1989 and 1991; Rosas, A., 1993), having begun in the 1980s, and continued in the 1990s and early 2000s. On reporting, fact-finding and other forms of supervision, see e.g. Shelton, D., 1980, pp. 6-16; Lerner, N., 1980; Meron, T., 1982; Vasak, K., ed., 1982; Fischer, D.D., 1984; Westerveen, G., 1984; Gomez del Prado, J.L., 1984; Thoolen, H. & B. Verstappen, 1986; Innes de Neufville, J., 1986; Cancado Trindade, A.A., 1987; Henkin, L., 1989, pp. 67-87, 249-273; Cassese, A., 1990, pp. 171-174; Graefrath, B., 1990, pp. 290-333; Balton, D.A., 1990, pp. 120-129; Skogly, S.I., 1990; Dormenval, A., 1991, esp. pp. 13-33; Cohen, C.P. *et al.*, 1992; Alston, P., ed., 1992; Dimitrijevic, V., 1993, pp. 1-24; Bloed, A. *et al.*, eds., 1993; Brett, R., 1993; Suy, E., 1994; Higgins, R., 1994, pp. 107-110; Cassese, A., 1994, pp. 115-125; and see generally *Conference on Administrative and Expert Monitoring of*

alike - with those in environmental law.[512] Within human rights law, multilateral[513] reporting procedures have developed from fairly modest starting-points. From voluntary reporting on the provisions of the Universal Declaration of Human Rights in the 1950s, the practice has developed to include, under different treaties, most states of the world. Reporting requirements have, through the practice of various international supervisory bodies, gained a considerable degree of independence and acceptance, [514] and they have since come to be the primary means of monitoring compliance with global human rights norms.[515] Instrumental to this development has been especially the International Labour Organisation (ILO), which was the first to initiate a reporting procedure for all its

---

International Legal Norms, Center for International Studies, New York University School of Law, February 1996; and further esp. Crawford, J., 2000.

[512] Despite the many conceptual and other differences (such as likelihood for interstate conflicts, "legalistic" human rights vs. "political" nature of environmental law, and the position of the global commons, which defy categorization as interests of either North or South, rich or poor, developed or developing, being simply in the interest of all) between the two areas of law, environmental treaties have mostly been influenced by the organization of supervisory mechanisms under human rights treaties. Human rights treaties are concluded between states, but the main beneficiaries of the agreements are individuals or groups of individuals. The threshold for resorting to the general law of international responsibility is very high in both areas of law, but in the human rights field one method of compliance supervision has become to make the individual a party to proceedings by granting *locus standi* before a supervisory organ, see e.g. Vasak, K., 1982, p. 225; Dimitrijevic, V., 1993, pp. 3-5; Hannum, H. ed., 1984, pp. 59-163; Buergenthal, T., 1995, pp. 110-147, on e.g. the EHCR and the European Commission and Court of Human Rights. Although some discussion is devoted to questions of the *locus standi* of individuals in international environmental law, the pertinent question may go considerably beyond the individual in less anthropocentric considerations of the value and "standing" of nature itself. On the individual in environmental law and on animal rights and eco-rights, see e.g. Birnie, P. & A. Boyle, 1992, pp. 190-213. Further on differences between the two fields, see Bodansky, D., 2000, pp. 363-365.

[513] As opposed to bilateral monitoring efforts; see, e.g. Kent, A., 2001, who argues that "bilateral pressures are low on the scale of effectiveness in comparison to multilateral pressures" (p. 583) and that "at most, bilateral monitoring achieves temporary, superficial, and instrumental change and, at worst, as has been the case with China, erodes the power, influence, and efficacy of the most effective monitoring agencies – multilateral human rights institutions", p., 624.

[514] Since the initial opposition based on arguments on state sovereignty from former socialist states, and some reluctance from other countries to require reporting on rights which were thought of as immediately justiciable, reporting procedures have thrived. Nonetheless, the traditional distinction in human rights law, and which does not have any parallel in environmental law, between civil and political rights, on the one hand, and economic, social and cultural, on the other, has given rise to some differences in supervisory approaches. The former "hard" rights have, especially in Europe, been thought of as directly justiciable, whereas the international control over compliance with "softer" social rights has been left to mechanisms other than, for instance, individual complaints. Many developing countries were also initially reluctant to report on the shortcomings in their domestic human rights situation, but with a growing realization that reporting offers a forum for pointing at the difficulties encountered in complying, the problem has gradually been disappearing; see Dimitrijevic, V., 1993, p. 9; and generally see Steiner, H. & P. Alston, 1996; *Cf.* on limited political support from states, Crawford, J., 2000. pp. 10-11; and Banton, M., 2000.

[515] Müllerson, R.A., 1991, pp. 126-127; Alston, P., 1991, p. 13; and see generally Rosas, A. & M. Scheinin, 1995, pp. 356-367; Steiner, H.J. & P. Alston, 1996; But *cf.* on evolving "judicial" practices in e.g. the CERD Committee, see Banton, M., 2000, p.56-60.

conventions.[516] Reporting requirements now exist in many, though not all,[517] global treaties concluded under the auspices of the United Nations.[518] The European Convention of Human Rights (EHCR),[519] which deals primarily with social and political rights that are enforceable in the end also in the European Court of Human Rights, well exemplifies those regional human rights treaties that make less use of reporting and more of judicial or quasi-judicial procedures.[520] Human rights reporting procedures seem to be premised on the

---

[516] All ILO conventions are covered by the reporting requirements included in the Constitution of the International Labour Organisation, Versailles, 28.6.1919, in force 10.1.1920; The relevant Article 22 reads: "Each of the Members agrees to make an annual report to the International Labour Office on the measures which it has taken to give effect to the provisions of Conventions to which it is a party. These reports shall be made in such form and shall contain such particulars as the Governing Body may request"; According to one writer already twenty years ago, the ILO has "... so developed this technique that it is now of unquestionable effectiveness", Vasak, K., 1982, p. 224; Further *cf.* Rossilion, C., 1974, pp. 40-49; Shelton, D., 1980; Leary, V., 1992; Valticos, N., 1994, pp. 99-113; Romano, C., 1996.

[517] See Article 36 Convention relating to the Status of Refugees, 28.7.1951, in force 22.4 1954, and Articles II and III of the Protocol related to the Status of Refugees, 31.1.1967, in force 4.10.1967.

[518] See Article 16, International Covenant on Economic, Social and Cultural Rights (CESCR), New York, 16.12.1966, in force 3.1.1976; Article 19, United Nations Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (CAT), New York, 10.12.1984, in force 28.6.1987; Article 7, International Convention on the Suppression and Punishment of the Crime of Apartheid, 30.11.1973, in force 18.7.1976; Article 40, International Covenant on Civil and Political Rights (CCPR), New York, 16.12.1966, in force 23.3.1976, reads: "1. States Parties [...] undertake to submit reports on the measures they have adopted which give effect to the rights recognized herein and on the progress made in the enjoyment of those rights [...] 2. Reports shall indicate the factors and difficulties, if any, affecting the implementation of the present Covenant"; Article 9, International Convention on the Elimination of All Forms of Racial Discrimination (CERD), 21.12.1965, in force 4.1.1969, lays down that "States Parties undertake to submit [...] for consideration by the Committee, a report on the legislative, judicial, administrative or other measures which they have adopted and which give effect to the provisions of this Convention: (a) within one year after the entry into force of the Convention for the State concerned; and (b) thereafter every two years and whenever the Committee so requests. The Committee may request further information from the States Parties."; The same wording is found in the United Nations Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), New York, 18.12.1979, in force 3.9.1981, with the addition in Article 18.2. that "[r]eports may indicate factors and difficulties affecting the degree of fulfilment of obligations [...]"; In Article 44.2., the United Nations Convention on the Rights of the Child (CTC), New York, 20.11.1989, in force 2.9.1990, which is otherwise is similar to the CCPR, specifies that "[r]eports shall also contain sufficient information to provide the Committee with a comprehensive understanding of the implementation of the Convention in the country concerned".

[519] Convention for the Protection of Human Rights and Fundamental Freedoms, Rome, 4.11.1950, in force 3.9.1953; Generally, see e.g. Steiner, H. & P. Alston, 1996.

[520] But for contrast *cf.* with the European Social Charter (Council of Europe), 18.10.1961, in force 26.2.1965; Additional Protocol, 5.5.1988, in force 4.9.1992; Amending Protocol 21.10.1991; Additional Protocol Providing for a System of Collective Complaints) system which amounts to "a semi-judicial review" that requires reports on progress in achieving the goals of the Charter to be submitted to its Committee of Independent Experts, and which, according to the amending Protocol of 1991(Art. 2), shall be able to give and publish legal opinions on state compliance, see e.g. Buergenthal, T., 1995, p. 157; The Committee of Experts is also to be elected by the Parliamentary Assembly, rather than by the Committee of Ministers (Art. 3). Voting shall be done on the basis of 2/3 majority of those states parties to the Charter (rather than all Members of the Council of Europe voting in the Committee of Ministers, Art. 5) The amending Protocol is also meant to make the entire supervisory process more transparent. See Fuchs, K. 1994, pp. 164-166, p. 157.

assumption that "every State is an actual or potential violator of human rights [...] and [...] that a degree of routinized international accountability is in the best interest of the State itself, of its citizens, and of the international community".[521] At the same time, this premise may have been acceptable to states because reporting procedures offer the least intrusive method of verification or supervision of the internal matters of states.[522] Thus reporting procedures have thrived, but the "inherent problems with a system for human rights protection based essentially on self-criticism and good faith", along with the enormous workload of the institutions, overdue reports, and funding problems, have been recognized as signs of crisis in the supervision of global human rights.[523] Indeed, the most disappointed commentators have even suggested abolition,[524] rather than reform,[525] of the report-based human rights monitoring system, a proposition that has not surfaced so clearly – yet - in the environmental supervision debate.

Chapter 3.2. is a survey into the main elements of reporting obligations under a handful of environmental treaties: A) Treaty provisions; B) Contents; and C) Functions. For comparison, it makes some references to reporting under human rights treaties in order that those precedents might provide points of reference against which to assess and generalize on reporting as a method of supervising of environmental treaty obligations. It is followed by a closer look at reporting and other procedural rules in the Basel and Bamako Conventions on hazardous waste trade, and in the particular context of Africa. Point B) on the contents of reporting obligations are examined by a set of questions:

Reports are reviewed by organs of the Council of Europe, see Charter Article 21-29; Additional Protocol Article 6; and further on the reporting procedure and the collective complaints system, see Harris, D., 2000

[521] Alston, P., 1991, p. 13.

[522] Henkin, L., 1989, p. 258.

[523] See esp. Crawford, J., 2000, pp. 1-11, quotation p. 7; *cf.* Leckie, S., 2000, p. 130.

[524] Esp. Bayefsky, A., 1994; See polemic by Alston, P., 2000, pp. 501-525.

[525] The need for reform, and an optimism about it, is reflected by e.g. Leckie, S., 2000, who on ICESCR Committee writes that "[t]he system is improving in important ways", p. 129; For the issue of reform see entire volume of Alston, P. & J. Crawford eds., 2000, and esp. e.g. Gallagher, A., p. 227, who suggests that "in the likely absence of any radical restructuring" the treaty bodies should prioritise their work, so that they could "be more productively and positively employed in working on a practical level, with cooperative governments and other key national partners in the difficult but essential task of strengthening human rights protection from within".

The **institutional structure** of the system:
- what institutions are created or already exist?
- who are the report examiners and how are they elected?
- do they act in their personal capacities or as representatives of governments?

The **mandate** of the report examining body:
- how are reports dealt with?
- can the examining body request additional information?
- can the body arrange discussions, hearings or other forms of further fact-finding?
- what action can the examining body take on the basis of a report? Mere statements of facts; recommendations to, e.g., a Conference of the Parties; recommendations to the reporting state itself; binding or semi-binding decisions and alterations of previous standards?

The concrete **report contents**:
- reporting schedule and intervals?
- qualitative and quantitative expectations?

The **exceptions**:
-are there pronouncements of the limits or exceptions to what should be reported?

The **compliance** of states with reporting obligations:
-how have states fulfilled their reporting obligations? Have their reports actually been dealt with?

The **problems encountered** by states in reporting:
-what particular difficulties do states have in fulfilling their reporting obligations?

3.2. Reporting under Environmental Treaties

Reporting procedures in some form exist in most international environmental treaties.[526] As the numbers are very high, it is necessary to resort to one classical environmental law methodology[527] in order to limit the examination here to some of the most central multilateral conventions representing different fields of environmental protection: a) pollution of the atmosphere and long-range transboundary air pollution; b) biodiversity and pollution of the commons as exemplified by Antarctica; and c) marine pollution. This

[526] No reporting system is found under the Treaty for Amazonian Co-operation, Brasilia, 3.7.1978, in force 2.2.1980; A duty to report is found in, but has not been applied, under the African Convention on the Conservation of Nature and Natural Resources, Algiers, 15.9.1968, in force 16.6.1969.

[527] On traditional research methods in international environmental law, see Springer, A.L., 1983, pp. 37-38.

means that bilateral treaties, which in a limited number of cases provide for direct state-to-state reporting, and soft-law documents[528] are left out, and so are the considerably more specific regional supervisory and complaints arrangements of the EU.[529]

3.2.1. Treaty Provisions

a) Pollution of the atmosphere and long-range transboundary air pollution

The Montreal Protocol on Substances that Deplete the Ozone Layer[530] in Article 7 provides that

> Each Party shall provide statistical data to the Secretariat on its annual production (as defined in paragraph 5 or Article 1), and, separately,
> -amounts used for feedstocks,
> -amounts destroyed by technologies approved by the Parties,
> -imports and exports to Parties and non-Parties respectively, of each of the controlled substances listed in Annexes A and B as well as of the transitional substances in Group I of Annex C, for the year during which provisions concerning the substances in Annex B entered into force for that Party and for each year thereafter. Data shall be forwarded not later than nine months after the end of the year to which the data relate.

Along with this already unusually clear reporting requirement on equally clear obligations, the Montreal Protocol was *the* treaty that led the way into non-compliance procedures.[531] At their fourth meeting in 1992, the parties to the Protocol adopted (under Article 8) a new procedure, which was to avoid complexity; be non-confrontational; be transparent; and leave all decisions to the Meeting of the Parties (MOP; not to any subordinate body). The process, as it still stands, can be started by one party against another party; by the

---

[528] Some "reporting" has also developed under a few environmental soft law documents, e.g. the 1982 World Charter for Nature, see Sand, P.H., 1999, p. 275.

[529] Also the North American setting has more specific supervisory mechanisms, see side agreement to the North American Free Trade Agreement (NAFTA), 1993: the North American Agreement on Environmental Cooperation, Washington, 13.9.1993.

[530] Montreal Protocol on Substances that Deplete the Ozone Layer, Montreal, 16.9.1987, in force 1.1.1989, amended, by Decision II/2 at the Second Meeting of the Parties to the Montreal Protocol, London, 29.6.1990, in force 10.8.1992, amended and adjusted, Copenhagen, 25.11.1992, in force 22.9.1993.

[531] For the original arrangement, see Note on procedures and institutional mechanisms for determining non-compliance with the Montreal Protocol on Substances that Deplete the Ozone Layer, UNEP/OzL.ProLG.1/2, 30.5 1989.

Secretariat; or by a party in respect of itself. An Implementation Committee reports regularly to the MOP, and those reports may contain recommendations on individual cases that have been brought to the attention of the Committee.[532]

The parties to the 1979 Convention on Long-Range Transboundary Air Pollution (LRTAP)[533] of the ECE have developed supervisory procedures based on state reporting and a monitoring programme called Evaluation and Monitoring of Environmental Pollution (EMEP).[534] According to Article 8 of the LRTAP, the parties shall "in their common interest" exchange available information on a number of facts, including "data on emissions at periods of time to be agreed upon, of agreed air pollutants, starting with sulphur dioxide" and on "major changes in national policies and in general industrial development, and their potential impact, which would be likely to cause significant changes". The Convention, which, symptomatically for framework agreements, does not feature other concrete obligations beyond reporting, has since 1979 developed Protocols to deal with the reduction of emissions of sulphur (in two Protocols);[535] nitrogen oxides;[536] volatile organic compounds (VOCs);[537] persistent organic pollutants (POPs);[538] and the control of acidification, eutrophication and ground-level ozone.[539]

---

[532] Generally on this development, see Széll, P., 1995, pp. 99-103.

[533] Convention on Long-Range Transboundary Air Pollution, Geneva, 13.11.1979, in force 16.3.1983. For general development of the regime in the 1970s, see Brunnée, J., 1988; Pallemaerts, M., 1988; Fraenkel, A., 1989; Gündling, L., 1991 and subsequent commentary by P. Fauteux; Levy, M.A., 1993.

[534] Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution on Long-term Financing of the Co-operative Programme for the Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe, Geneva, 28.9.1984, in force 28.1.1988; See also Article 10 of LRTAP. See Gosovic, B., 1992, ch. 7, especially on interaction between EMEP and UNEP-based GEMS; Abate, D. & Shahid, A., 1994, pp. 79-80.

[535] Protocol to the 1979 Convention on Long-range Transboundary Air Pollution on the Reduction of Sulphur Emissions or their Transboundary Fluxes by at least 30 per cent, Helsinki, 8.7.1985, in force 2.9.1987; Protocol to the Convention on Long-range Transboundary Air Pollution on the Further Reduction of Sulphur Emissions, Oslo, 14.6.1994, in force 5.8.1998.

[536] Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution Concerning the Control of Emissions of Nitrogen Oxides or Their Transboundary Fluxes, Sofia, 31.10.1988, in force 14.2.1991.

[537] Protocol to the 1979 Convention on Long-range Transboundary Air Pollution on the Control of Emissions of Volatile Organic Compunds or their Transboundary Fluxes, Geneva, 18.11 1991, in force 29.9.1997.

[538] Protocol to the 1979 Convention on Long-range Transboundary Air Pollution on Persistent Organic Pollutants, Aarhus, 24.6 1998, not in force; Under the auspices of UNEP, *cf.* the Convention on Persistent Organic Pollutants, Stockholm, 22.5.2001, not in force, see www.chem.unep.ch/pops/.

Under the first three Protocols on sulphur, nitrogen oxides and VOCs, reporting procedures were simply aimed at parties reporting annually on emission levels or progress achieved under national programmes, policies and strategies.[540] According to one writer, under that early system "there is a conscious attempt on the part of the secretariat not to embarrass parties in these reports".[541] The Second Sulphur Protocol, in requiring parties also to "take and apply national measures" and, subsequently, to report on such concrete measures, provides for a more detailed reporting requirement.[542] Under the VOC, Second Sulphur, POPs and acidification Protocols, those parties within the geographical scope of EMEP shall also report to it on emission levels.[543] Inspired by, and partly identical with, the non-compliance procedure of the Montreal Protocol, the LRTAP system also has its own NCP and an Implementation Committee. The system's details have been worked out outside of the Protocols, in a Decision by the Convention's Working Group on Strategies, in order for it to be more easily amendable. The four latest Protocols make use of this system, which in some aspects has become stronger than its Montreal counterpart:[544] i.a., the Secretariat can react on any information it receives and the Committee does not have to reach an amicable solution with the party accused of being in non-compliance.[545] Finally, i.a. the Second Sulphur Protocol has also established a possibility for fact-finding missions. The Implementation Committee may, when it considers the non-compliance with the Protocol of a party,

> [u]ndertake, upon invitation of the Party concerned, information gathering in the territory of that Party[546]

---

[539] Protocol to the 1979 Convention on Long-range Transboundary Air Pollution to Abate Acidification, Eutrophication and Ground-level Ozone, Göteborg, 30.11.1999, not in force.

[540] Article 4, 1985 Sulphur Protocol; Article 8, Nitrogen Protocol.

[541] See Levy, M.A., 1993, pp. 90-91.

[542] Art. 4(1) and 5(1)(a).

[543] Articles 8(3); 5(2); 8(4); and 7(1) respectively.

[544] Para. 3 and 5 of the Decision taken by the Executive Body at the Adoption of the Protocol on the Structure and Functions of the Implementation Committee, as well as Procedures for its Review of Compliance, ECE/EB.AIR/40, pp. 30-32; Decision 1997/2 Concerning the Implementation Committee, its Structure and Functions and Procedures for Review of Compliance, ECE/EB.AIR/53, Annex III. The VOCs Protocol, article 3(3), Decision 1997/3, ECE/EB.AIR/53, p. 32

[545] See generally, Széll, P., 1995, pp. 104-106; Churchill, R.R., G. Kütting, L.M. Warren, 1995, pp. 190-192.

This is a strictly consent-based tool for acquiring information, and not to be confused with such *ad hoc* inspections that may exist in disarmament treaties.

The Nuclear Safety Convention of the International Atomic Energy Agency (IAEA) envisages a peer review scheme based on reporting and Meetings of the Parties.[547] Article 5 states that:

> Each Contracting Party shall submit for review, prior to each meeting referred to in Article 20, a report on the measures it has taken to implement each of the obligations of this Convention.

This requirement is to be read in conjunction with Article 4, which requires states to take legislative, regulatory and administrative measures and other steps necessary for implementing the obligations under the Convention.

Finally, one of the most interesting examples of reporting is found in the Global Climate Change Convention (FCCC) signed at Rio in 1992.[548] The Convention establishes an elaborate reporting mechanism based on "common but differentiated obligations" between developed and developing countries.[549] It does not use the term "reporting", however, but only speaks of national "communications". Under Article 12, all parties to the Convention are to submit a national inventory of anthropogenic emissions and information on steps taken or envisaged to implement the Convention. The inventories are based on rather clear

---

[546] Para. 7(b) of the Decision taken by the Executive Body at the Adoption of the Protocol on the Structure and Functions of the Implementation Committee, as well as Procedures for its Review of Compliance, ECE/EB.AIR/40, pp. 30-32.

[547] Nuclear Safety Convention, Vienna, 20.9.1994, in force 24.10.1996; See further Nuclear Installations Safety Net (NUSAFE): www.iaea.org/worldatom/Documents/Legal.

[548] On the drafting history of the Convention as well as on its general contents, see e.g. Borg-Olivier, A., 1989; Grubb, M., 1991; Barrett, J., 1991, pp. 183-200; Boyle, A., 1991, pp. 7-19; Plant, G., 1991, pp. 165-181; Plant, G., 1991, 'Pledge and Review...'; Churchill, R., 1991, pp. 147-163; Tolbert, D., 1991, pp. 95-108; Churchill, R. & D. Freestone, eds., 1991; Széll, P., 1991, pp. 167-185; Chayes, A., E. Skolnikoff & D. Victor, 1992; Young, O.R., 1993; Boehmer-Christiansen, S., 1994, pp. 181-198; Oberthür, S., 1994, pp. 299-303; Boisson de Chazournes, L., 1996, pp. 285-300; On the background to supervision issues and the run-up to the Convention see Ferreira, V., 1992; Pulvenis, J-F, 1994, esp. pp. 91-109; on Joint Implementation under the Convention, Loske, R. & S. Oberthür, 1994, pp. 45-58; and *Activities...*, OECD, 1997; and on ecological challenges to international law on climate change, Taylor, P., 1998; Further for all recent public documentation under the Convention Secretariat, http://unfccc.int.

[549] Articles 4(1)(j); 4(2), 7, 12.

formats and methods, all in order to enhance comparability between reports.[550] The inclusion of more specific information is dependent on whether a state party is a developed state or other state included in Annex I of the Convention. Likewise, depending on development status, parties were to submit initial reports under the Convention within six months or three years of the entry into force of the Convention. Least developed states may make their initial communications at their discretion. Thus, the reporting scheme reflects the substantive provisions of the Convention. The Kyoto Protocol to the Climate Change Convention also makes clear distinctions on both substantive and procedural obligations depending on the development status of the parties.[551]

The Kyoto Protocol (in Article 3(2)) stipulates that the developed country parties to the Protocol must by 2005 have made "demonstrable progress" in achieving its commitments, and that greenhouse gas emissions shall be "reported in a transparent and verifiable manner and reviewed in accordance with Articles 7 and 8". Article 7 is an agreement on the two types of information to be included by developed countries: firstly, an annual inventory of emissions, including supplementary information to ensure compliance with the substantive provisions in Article 3; and secondly, an inclusion in the national communication under Article 12 of the Climate Change Convention on compliance with the commitments under the Protocol. The 1997 Protocol text requires the Conference of the Parties (COP) to adopt guidelines for the preparation of information to be submitted, a work that is still going on.[552] All communications were originally to be reviewed by an expert review team and, ultimately, by the COP, but since COP 6 communications are also to be considered by the facilitative branch of the so-called compliance committee. Furthermore, under Article 6, the COP is to elaborate guidelines for verification and reporting on implementation of transfers of emission reduction units.[553] Interestingly, "any such units may not be used by a party to meet its commitments under Article 3 until any issue of compliance is resolved".

---

[550] On better comparability of specific data as compared to general information on implementing measures, see Bodansky, D., 2000, p. 370.

[551] On Kyoto Protocol and post-Kyoto developments generally, see further Cameron, P., 2001, pp. 3-23.

[552] . E.g. FCCC/CP/2001/L.28; COP7 Decision on Article 7, where the SBSTA is asked to develop criteria for some concrete aspects of reporting. For texts of the various reporting guidelines, look under http://unfccc.int/issues/natcompartan1.html.

[553] Cf. Article 17.

Apart from the Kyoto mechanisms for emission reductions, the elaboration of an NCP seems to have been a priority issue among those states participating in the Kyoto process.[554] To this end a joint working group (JWG) was established at COP 4,[555] to function under the subsidiary Body for Implementation (SBI) and the Subsidiary Body for Scientific and Technological Advice (SBSTA) of the Convention. At COP 6 in late 2000, the issue was considered on the basis of a text proposed by the co-chairmen of the JWG.[556] The text proposed the establishment of the already mentioned compliance committee, including a facilitative and an enforcement branch, the latter of which would have the mandate to suspend the rights and privileges of a party in non-compliance. Interestingly, this far-reaching proposal was well met by states when COP6 resumed its work in July 2001, and, after some adjustments, decided upon at COP7 in November 2001.[557] The parties agreed that the enforcement branch shall be responsible for determining whether an Annex I Party is in compliance with both quantitative emission commitments, methodological and reporting requirements and eligibility requirements (on transfers of emission reduction units; under Articles 6,12 and 17). Non-compliance shall now lead i.a. to higher deduction rates, the requirement to develop a compliance action plan, and to the suspension of eligibility to make transfers.[558] In relation to these procedures the Kyoto Protocol parties that have been affected by decisions by the enforcement branch may resort to an appeals procedure if they believe that they have been denied due process. The COP, which acts as the appeals body, may override a decision by the enforcement branch by a majority of at least three-quarters. As opposed to the relative weakening of the reduction targets under the Protocol (due to more weight given to carbon absorbing forests), the control methods agreed at Bonn and Marrakech are surprisingly strong commitments to reduce climate change. It remains to be seen however, whether the control methods will be

---

[554] Article 18 of the Protocol calls on the first COP "to approve appropriate and effective procedures and mechanisms to determine and to address cases of non-compliance with the provisions of this Protocol, including through the development of an indicative list of consequences, taking into account the cause, type, degree and frequency of non-compliance".

[555] FCCC: Decision 8/CP.4.

[556] FCCC/SB/2000/11.

[557] FCCC/CP/2001/L.21, at COP7 at Marrakech, 5.11 2001.

[558] *Cf.* FCCC/CP/2001/L.7, section VIII and FCCC/CP/2001/L.21, Annex to the Decision.

implemented by the parties, and, of course, whether compliance can make a difference despite gaps in ratification.[559]

b) Biodiversity and pollution of the commons as exemplified by Antarctica

Under the 1992 Biodiversity Convention (CBD)[560]

> Each contracting Party shall, at intervals to be determined by the Conference of the Parties, present to the Conference of the Parties, reports on measures that it has taken for the implementation of the provisions of this Convention and their effectiveness in meeting the objectives of this Convention.

The first national reports were submitted in 1998 and the second set in 2001. Apart from these, three specific thematic reports have so far been concluded or are envisaged by parties, namely on alien species, benefit-sharing and forest ecosystems. An (at least seemingly) new institutional set-up will be established under the Cartagena Biosafety Protocol to the Convention on Biodiversity: a Clearing-House Mechanism (CHM) for the facilitation of exchange of scientific, technical, environmental and legal information meant to assist parties, especially developing countries, in the implementation of the Protocol. The Clearing-House is also meant to provide, where possible, access to other international biosafety information than that submitted by the parties. The first meeting of the COP when the Protocol enters into force is to decide upon the modalities and the operation of the mechanism.[561]

Under Article VII(5) of the framework 1959 Antarctic Treaty,[562] parties are to submit information in advance on all expeditions, stations and military personnel or equipment at

---

[559] As of July 20, 2001, the Protocol had 84 signatories and 37 ratifications. After the COP6 and COP7 decisions discussed above, the ratification figures are growing. Standing for approximately 28% of global emissions, the non-ratification of the United States is the single largest blow to the Protocol's success.

[560] United Nations Convention on Biological Diversity, Rio de Janeiro, 5.6.1992, in force 29.12.1993, Article 26. On the CBD see www.biodiv.org. On the protection of biodiversity and the development of the CBD, see also e.g. de Klemm, C., 1989; Sands, P., 1995, pp. 381-387; Jenks, D. T., 1995.

[561] Protocol on Biosafety to the Convention on Biological Diversity, Cartagena, 29.1.2000, not in force, Article 20. See www.biodiv.org/biosafe/protocol.

Antarctica, [563] and under Article VIII(3) reports from the observers referred to in Article VII of the treaty are to be transmitted to the representatives of parties participating in the meetings of the parties. The 1991 Environment Protocol to the Antarctic Convention (Article 17) - as well as the Annexes to it - have their own annual reporting obligations on steps taken to implement the Protocol/Annexes and on compliance with its provisions (Article 13).[564] Reports are circulated to all parties as well as the Committee for Environmental Protection (CEP) established under the Protocol, and are then considered by the Antarctic Treaty Consultative Meeting, and "made publicly available". In addition to reporting procedures, the Protocol establishes an inspection system (Article 14), where Parties can designate inspectors from among their own nationals, and such inspectors shall be given access to all parts of stations, installations, equipment, ships and aircraft open to inspection under Article VII(3) of the Antarctic Treaty. Reports on inspections are sent to parties covered by them for comment and these comments along with the report are sent on to the Consultative Meeting and made public, just as annual reports. It would seem that this new system, which is similar to the earlier arrangement under the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR), discussed below, has started functioning rather well.[565]

---

[562] Antarctic Treaty, Washington, 1.12.1959, in force 23.6.1961; See the Scientific Committee on Antarctic Research of the International Council of Scientific Unions, (SCAR) pages at http://www.scar.org/Treaty/treaty_.htm; Generally on law and environmental protection in the Antarctica, see Francioni, F., 1992; Watts, A., 1992; Verhoeven, J. *et als.*, 1992; Kimball, L.A., 1993; Elliott, L.M., 1994; Rothwell, D., 1996 and ibid, 2000.

[563] As an example, see U.S. (National Science Foundation, Office of Polar Programs) information submitted under Art. VII at http://www.nsf.gov/od/opp/antarct/treaty/.

[564] Protocol to the Antarctic Treaty on Environmental Protection, Madrid, 4.10.1991, in force 14.1.1998. On the Protocol, see further Rothwell, D., 1996 and Rothwell, D., 2000, pp. 591-614.

[565] And *cf. u*nder Article 5 on exchange of information and scientific advice of the Convention for the Protection of Antarctic Seals (CCAS), London, 11.2.1972, in force 11.3.1978:

> 1. Each Contracting Party shall provide to the other Contracting Parties and to SCAR the information specified in the Annex within the period indicated therein.
> 2. Each Contracting Party shall also provide to the other Contracting Parties and to SCAR before 31 October each year information on any steps it has taken in accordance with Article 2 of this Convention during the preceding period 1 July to 30 June.
> 3. Contracting Parties which have no information to report under the two preceding paragraphs shall indicate this formally before 31 October each year.
> 4. SCAR is invited: (a) to assess information received[...] (b) to report on [...} significantly harmful effect on the total stocks of such species [...]

In addition to this reporting scheme, the CCAS parties also exchange information through the Scientific Committee on Antarctic Research (SCAR). According to Lyster, S., 1985, p. 50 (see generally, pp. 48-51) "[t]he strict reporting requirements of the Convention should ensure that any commercial sealing operation is rapidly brought to the attention of the Parties if one does begin".

In addition to requiring the reporting of harvesting activities, on statistical or biological data, and on activities contrary to the Convention, the CCAMLR[566]requires information on compliance measures and on "the imposition of sanctions for any violation."[567] The CCAMLR sets up a strong Commission with the function to "give effect to the objective and principles set out in Article II". Thus the Commission itself is under a duty to conserve Antarctic marine living resources and to adopt an ecosystems approach. Unlike several other conservation treaties' executive bodies, the CCAMLR Commission requires consensus on substantive issues. The provision under Article X that the Commission can draw the attention of the arties to any party whose activities affect the implementation of the Convention is subject to being the "opinion of the Commission", which would seem to render it ineffective because of the consensus requirement. Apart from reporting, the supervisory system of the Convention under Article XXIV(2) also includes observation and inspection, although by inspectors subject to the jurisdiction of the party of which they are nationals. Nonetheless, a functional compliance system has over the years developed in relation to most conservation measures under the CCAMLR, including a scheme to promote compliance with the conservation measures by non-parties to the Convention.[568] The inspection system has been in use since the 1989/90 season. Reports from inspections are by the Commission submitted to the flag state of the inspected vessel. Flag states are then required to report to the Commission on prosecutions and sanctions that it has imposed on the basis of inspections. A Standing Committee on Observation and Inspection

---

[566] Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR), Canberra, 20.5.1980, in force 7.4.1982. See generally, Lyster, S., 1985, pp. 156-177; Birnie, P. & A. Boyle, 1992, p. 445; Rothwell, D., 2000; And see further www.ccamlr.org; The provisions of the Convention on the Regulation of Antarctic Mineral Resource Activities (CRAMRA), Wellington, 2.6.1988, which is not in force, are weaker than, but similar to the CCAMLR. Article 7 provides that:

> 1. Each Party shall take appropriate measures within its competence to ensure compliance with this Convention and any measures in effect pursuant to it. [...]
> 2. Each Party shall notify the Executive Secretary, for circulation to all other Parties, of the measures taken pursuant to paragraph 1 above. [...]

[567] Article XXI states that

> 1. Each Contracting Party shall take appropriate measures within its competence to ensure compliance with the provisions of this Convention and with conservation measures adopted by the Commission to which the Party is bound in accordance with Article IX of this Convention.
> 2. Each Contracting Party shall transmit to the Commission information on measures taken pursuant to paragraph 1 above, including the imposition of sanctions for any violation.

[568] CCAMLR: 118/XVII.

(SCOI) further considers and prepares advice to the Commission on matters related to inspections and measures by parties to enforce compliance with the conservation measures.

c) Marine pollution

The 1982 LOSC calls for reporting on the environmental risk monitoring done under Article 205.[569] Likewise, states parties are to report on assessments they have made on planned activities under their jurisdiction or control that may cause substantial pollution of or significant and harmful changes to the marine environment. The International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) requires states parties to report on several issues:[570] under Article 4 on violations to the Convention, parties are required to furnish the flag state ("Administration") of a violating ship with evidence of a violation, and the flag state must report further to the International Maritime Organization (IMO); Article 11 provides for the communication of information to the IMO on, *inter alia*, official reports or summaries of official reports in so far as they show the results of the application of the Convention; and an annual statistical report, in a form standardized by the IMO, of penalties actually imposed for infringement of the Convention. Amendments to the 1978 Protocol have further developed the scheme for reporting on incidents involving harmful substances.[571] The MARPOL Convention greatly differs from the air pollution, climate change and biodiversity or conservation treaties discussed above

---

[569] Reporting examples could be drawn from several other international treaty regimes regulating marine pollution than the ones mentioned below; see, e.g., Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, London, 13.11.1972, in force 30.8.1975; amended 12.10.1978, in force 11.3.1979; amended 24.9.1980, in force 11.3.1981; amended 3.11.1989, in force 19.5.1990; amended 12.11.1993, in force 20.2.1994; i.a. Article VI(4). And see Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 7.11.1996, not in force: intended to replace the 1972 Convention.

[570] International Convention for the Prevention of Pollution from Ships, London, 2.11.1973; Individual Annexes entered into force at different dates; Protocol of 1978 Relating to the International Convention for the Prevention of Pollution from Ships 1973, London, 17.2.1978, in force 2.10.1983; amended 7.9.1984, in force 7.1.1986; amended 5.12.1985, in force 6.4.1987; amended Dec. 1987, in force 1.4.1989; amended March 1989, in force 13.10.1990; amended 17.10.1989, in force 18.2.1991; amended March 1990, in force 3.2.2000; amended Nov. 1990, in force 17.2.1992; amended 4.7.1991, in force 4.4.1993; amended 6.3.1992, in force 6.7.1993; amended 13.11.1994, in force 3.3.1996; amended 14.9.1995, in force 1.7.1997; amended 10.7.1996, in force 1.1.1998; amended 23.9.1997, in force 1.2.1999; * 1997 Protocol adding new Annex VI on Regulations for the Prevention of Air Pollution from Ships, 26.9.1997, not in force.

[571] Amendments 5.12.1985, in force 6.4.1987; 10.7.1996, in force 1.1.1998. See further at www.imo.org.

in that it contains a well-developed system of certification of ships and inspections of their activities.

The 1992 Convention for the Protection of the Marine Environment of the North East Atlantic[572] and the 1992 Convention on the Protection of the Marine Environment of the Baltic Sea Area[573] both include reporting procedures. Article 22 of the North East Atlantic Convention reads:

> The Contracting Parties shall report to the Commission at regular intervals on:
> a) the legal, regulatory, or other measures taken by them for the implementation of the provisions of the Convention and of decisions and recommendations adopted thereunder, including in particular measures taken to prevent and punish conduct in contravention of those provisions;
> b) the effectiveness of the measures referred to in subparagraph a) of this Article;
> c) problems encountered in the implementation of the provisions referred to in subparagraph a) of this Article.

The new Baltic Convention essentially sets the same reporting obligation on the parties, but in Article 16(2) it also provides that, on the request of a party or the Commission, the parties shall provide information on discharge permits, emission data or data on environmental quality, "as far as possible". This points to some differences in the mandate of the parties in so far as requesting additional information.

The amended Mediterranean Convention requires reports that are very similar to those under the North East Atlantic Convention.[574] The Protocol on Specially Protected Areas

---

[572] For excellent homepages, see further www.ospar.org.

[573] See further www.helcom.fi; And Koskenniemi, M., 1993; Ehlers, P., 1993; Fitzmaurice, 1998; See also Mickwitz, P., *Implementation of Key Environmental Principles. Experiences from the Protection of the Baltic Sea*, Copenhagen: Nordic Council of Ministers, NORD 1998:2.

[574] The old Article 20 required that "[t]he Contracting Parties shall transmit to the Organization reports on the measures adopted in implementation of this Convention and of the Protocols to which they are Parties, in such form and at such intervals as the meetings of Contracting Parties may determine". Convention for the Protection of the Mediterranean Sea Against Pollution, Barcelona, 16.2.1976, in force 12.2.1978, amended 10.6.1995. Article 26 now requires that:

> 1.The Contracting Parties shall transmit to the Organization reports on:
> (a) the legal, administrative or other measures taken by them for the implementation of this Convention, the Protocols and of the recommendations adopted by their meetings;

and Biodiversity also sets up its own separate reporting requirement, quite in accordance with Article 26 of the Convention.[575] The Protocol reports have to consider a wide number of issues beyond the status and state of specially-protected areas, such as the creation of databases of specially-protected areas and co-operation with governmental and non-governmental organizations. The reports are to be considered by the Meetings of the Parties to the Protocol, which can make recommendations to the parties on measures to be adopted for the implementation of the Protocol. In addition to general annual reporting on hazardous waste generated and transferred within the Protocol area, the Hazardous Wastes Protocol adopted in 1996 adds a provision entitled Verification. It is consultation-based and only gives the treaty's Organization the possibility to report on the matter to the P´parties, which in turn "considers" such reports.[576]

3.2.2. Contents

Institutional structure

Several different patterns of institutional structure co-exist. Usually environmental treaties establish a Conference of Parties (COP; or Meeting of Parties, MOP) with the dual function of reviewing and amending the treaty and supervising compliance with it.[577] Treaty secretariats may be specifically created, or existing international organizations may provide secretarial services which can be partly supervisory in character.[578] Sometimes parties to a treaty report directly to an existing organization, such as the parties of the MARPOL to the IMO or the parties to the African Convention on the Conservation of Nature and Natural

---

(b) the effectiveness of the measures referred to in subparagraph (a) and problems encountered in the implementation of the instruments as mentioned above.

2.The reports shall be submitted in such form and at such intervals as the Meetings of Contracting Parties may determine.

[575] Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean, Barcelona, 10.6.1995.

[576] Articles 13 and 15(d), Protocol on the Prevention of Pollution of the Mediterranean Sea by Transboundary Movements of Hazardous Wastes and their Disposal, Izmir, 1.10.1996, not in force.

[577] Or "Executive Body", equivalent to COP, as under LRTAP; See e.g. Biodiversity Convention, Article 23(4).

[578] E.g., UNEP for the Mediterranean Convention and for the Convention on International Trade in Endangered Species of Wild Fauna and Flora, Washington, 3.3.1973, in force 1.7.1975 (CITES), which initially designated the International Union for the Conservation of Nature (IUCN), a semi-NGO, as its secretariat. On the background, see Kiss, A-C., 1980, pp. 101-102.

Resources to the Organization of African Unity (OAU).[579] The parties to the LOSC have to report to "the competent international organizations",[580] that is, at least, the IMO. The set-up may also be a division between an executive body of the treaty, such as a COP or a commission such as the OSPAR Commission under the North East Atlantic Convention or HELCOM under the Baltic Convention, and a secretariat, new or previously existing.

The environmental treaty bodies clearly differ from those seen under the major global human rights treaties, the latter of which have remarkably similar institutional set-ups for reporting, mostly based on the examples set by the Human Rights Committee under the CCPR and the Committee on Racial Discrimination established by the CERD.[581] The various supervisory treaty bodies, which are normally elected by the parties,[582] are made up of "experts" acting in a personal capacity. Their mandates are limited to the tasks given to them by the treaty or according to rules agreed on by the treaty body, but they are free to acquire information on human rights situations from sources outside the government reports they examine. The ILO system is based on two distinct committees, the so-called Committee of Experts, which is a smaller body of independent experts serving in their personal capacity, and the tripartite Conference Committee.[583]

Rather than employing independent experts to review the reports, environmental reports are more often examined either by international bureaucrats and the states parties, or directly by parties to the various treaties, that is as "pure" peer-review. An in-between example is provided by the IAEA Nuclear Safety Convention. The meetings of the parties are called "review meetings" and their stated purpose is the "review by experts of national reports". However, the Convention does not specify whether the experts are to be independent or to act in their own capacity; rather, the Convention only mentions that the parties are to be

---

[579] African Convention on the Conservation of Nature and Natural Resources, Algiers, 15.9.1968, in force 16.6. 1969, see Article XVI(2).

[580] Article 205.

[581] Generally on CERD see further Lerner, N., 1980, pp. 76-78; and esp. Banton, M., 2000; For the example of the committee of independent experts under the CRC, see Balton, D.A, 1990, pp. 127-128.

[582] The most noteable exception is the Committee on Economic, Social and Cultural Rights which is elected by ECOSOC.

[583] Leary, V.A., 1992, see pp. 595-602; Vasak, K., 1982, p. 224. Further see Rossilion, C., 1974, pp. 40-49; Valticos, N., 1994, pp. 99-113; Romano, C., 1996.

represented by one delegate, and such alternates, experts and advisors, as it deems necessary.[584] The reports due under the Climate Change Convention, in contrast, are to be examined at first by teams of experts and then by the COP.[585]

The Implementation Committee set up under the LRTAP Second Sulphur Protocol is also a peer review organ, consisting of eight parties at a time. It can, however, also

> [e]nsure that the quality of data reported by a Party in accordance with article 5 (Reporting) is evaluated by the EMEP technical centres, and/or by an independent expert nominated by the Implementation Committee.[586]

This means that "accusations" by one party against another must be verified, possibly fully independently. The Committee itself reports its findings and tentative recommendations to the parties at sessions of the Executive Body. Parties whose implementation or non-compliance is under consideration may not themselves participate in the elaboration and adoption of recommendations on that matter. In the end, any decisions on recommendations are taken by the parties. The lack in most environmental treaty systems, except for a few of the newest ones, of independent experts reviewing reports (both non-politically and with respect to scientific evidence, when given or otherwise existing) could be perceived as a negative factor,[587] but, on the other hand, expert bodies, such as those under the global human rights treaties, [588] seldom have any powers to make more than superficial recommendations, and their independence is sometimes questioned.[589]

---

[584] Article 20 and 24; Annex to the Final Act of the Diplomatic Conference: *Some Clarification with Respect to Procedural and Financial Arrangements, National Reports and the Conduct of Review Meetings, Envisaged in the Convention on Nuclear Safety*, 33 I.L.M. 1525 (1994), Articles 2 and 3.

[585] *Cf.* for Kyoto Protocol, where there are expert review teams "composed of experts selected from those nominated by Parties to the Convention and, as appropriate, by intergovernmental organizations..." (Article 8(2)); and *cf.* on the role of the facilitative branch of the compliance committee, FCCC/CP/2001/L.21, at COP7 at Marrakech, 5.11 2001.

[586] Para. 6(d) of the Decision taken by the Executive Body at the Adoption of the Protocol on the Structure and Functions of the Implementation Committee, as well as Procedures for its Review of Compliance, ECE/EB.AIR/40, pp. 30-32.

[587] On the role of experts in environmental regimes, see further Victor, D.G., K. Raustiala & E.B Skolnikoff, 1998.

[588] Further on the composition of human rights committees, problems inherent in election in the UN of so-called experts, and the need for diversity, see Scott, C., 2000, pp. 417-437.

Mandate of report-examining bodies

The Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) in Article X states that "[t]he Commission shall draw the attention of all Contracting Parties to any activity which, in the opinion of the Commission, affects the implementation by a Contracting Party of the objective of this Convention or the compliance by that Contracting Party with its obligations under this Convention". The notion of "drawing the attention" of parties to a problem of compliance is hardly what one might wish from a strong environmental treaty system. Yet, this example illustrates only too well the lack of powers of many treaty bodies to take any binding or even semi-binding decisions or recommendations on non-compliance. According to Boyle, "[treaty bodies'] significance as enforcement devices lies not in their formal powers, which they rarely possess, but in their capacity to bring to bear a form of community pressure and international accountability" and "such institutions have the crucial advantage of providing a forum for all interested states to participate in a process of negotiated equity that is much the most useful model for resolving polycentric problems where no single state's acts are responsible and the interests of all are at stake".[590]

Usually, the final word lies with the full number of parties to an environmental treaty. For example, in the case of the LRTAP Second Sulphur and subsequent Protocols, there is an institutional novelty, a committee specifically meant to deal with implementation and non-compliance. But it can only review reports, ask for further information, undertake information gathering in the territory of a party – if the party presents an invitation - and make "any recommendations it considers appropriate regarding compliance with the Protocol". This latter power is still more than the experts reviewing some of the major human rights treaties may do.[591] The Executive Body of the Protocols may on the basis of

---

[589] In human rights, the problem of independence (i.e. pressure from governments trying to influence single members) led e.g. the CRC Committee to abandon the use of so called country rapporteurs. The system was however re-introduced in 1999 as it was considered a useful means of making review of reports more efficient: see Lansdown, G., 2000, pp. 123-124, and CRC, *Report of the Twenty-first Session*, 1999, CRC/C/87; and Clapham, A., 2000, pp. 188-190.

[590] Boyle, A., 'International Law and...', 1991, pp. 17-18.

[591] Boyle, A., 'International Law and ...', 1991, p. 18. Boyle refers to the role of the independent members of the UN Human Rights Committee and the UN Committee on Torture reviewing compliance with the CCPR and the CAT, respectively.

Committee recommendations then "decide upon measures of a non-discriminatory nature to bring about full compliance with the protocol in question, including measures to assist a party's compliance".[592] Such decisions are to be taken by consensus. The parties have hardly delegated any wide powers to the Committee. Nevertheless, this arrangement still represents the latest "generation" of verification/non-compliance systems, and it is a concrete step forward from the earlier agreements with no such arrangements. A comparison between the powers of the HELCOM and OSPAR Commissions is to the advantage of the North East Atlantic Commission: it can decide upon and "call for steps to bring about full compliance", a wording similar to that found in the Montreal Protocol - and equally as vague.

Cases of this nature can be contrasted with the mandates of human rights treaty bodies, which derive either directly from the treaties or from decisions of the bodies themselves.[593] One of the main tasks of the treaty bodies is to review reports submitted to them by treaty parties and, usually, to report back to these, by including summaries or general comments, or at best some "mild" recommendations or suggestions either to the parties or to the UN.[594] The mandates are not completely static: they seem to be organic in the sense that they evolve over time through the internal procedures of the various committees to deal with new issues and demands.[595] The eighteen independent expert members of the Human Rights Committee, for example, "study" or "examine" both initial and subsequent reports and makes "general comments"[596] which together with the "observations" of the state party in question are submitted to the General Assembly through the ECOSOC.[597] Under the ILO

---

[592] Decision 1997/2 Concerning the Implementation Committee, its Structure and Functions and Procedures for Review of Compliance, ECE/EB.AIR/53, Annex III, paragraphs 6 and 11, pp. 30-31.

[593] For instance, the treaty bodies can often decide on the periodicity of reports, for an early example see e.g. CCPR, *Decision on Periodicity*, CCPR/C/19/Rev.1, 26.8.1982; and *cf.* Art. 18 CEDAW, and on it, Bustelo, M., 2000, p. 80.

[594] See e.g. Bustelo, M., 2000, p. 79-81.

[595] See e.g. the evolutionary processes under the CERD Committee, M. Banton, 2000, esp. pp. 75-78; and Leckie, S., 2000, pp. 129- 144 on ICESCR Committee.

[596] CCPR, *Statement on the Duties of the Human Rights Committee under Article 40 of the Covenant*, CCPR/C/18, 19.8.1981: the General Comments of the Human Rights Committee should comment on the implementation of the reporting obligation, the implementation of the obligation to guarantee the rights set forth in the Covenant, questions related to the application and content of individual articles of the Covenant, and suggestions concerning co-operation between parties in applying and developing the Covenant; At best, the general comments may thus highlight insufficiencies found in a large number of reports.

system, treaty compliance is first reviewed by the Committee of Experts in a rather technical way, and without direct discussions with government representatives.[598] Their "observations" are published in a report and their "direct requests" for further information are sent to governments. The Conference Committee in turn meets representatives of the tripartite constituents for discussions on serious cases of non-compliance. The Committee reports each year to the International Labour Conference. Neither body takes any formal decisions, but their reports may function as a "moral sanction".[599]An interesting part of the ILO system is that states are obliged to report also on conventions that they have not yet ratified, as well as on recommendations.[600] The Commission on Human Rights appoints special rapporteurs to visit specific countries and to report to it on human rights situations in those countries, and a few treaty bodies, notably the Committee under the European Convention on Torture and the Inter-American Commission on Human Rights, have provisions for on-site inspections in their own capacity.[601] Normally supervisory bodies can ask for additional information to be submitted if reports are incomplete. Perhaps the most significant stage of the reporting procedure appears to be that of the oral exchanges between the treaty body and governments[602] According to one writer, difficulties have been addressed more frankly in such oral examinations, but problems remain, not least because government officials answering questions are "inherently limited" when defending the report of the state they represent,[603] and because not all oral exchanges are natural two-way discussing situations where answers would be given directly to questions asked.[604] In order to avoid the often overly-biased opinions of government representatives, the members of

---

[597] See Higgins, R., 1994, p. 109; The CERD, in contrast, takes formal decisions, most of which deal with the reporting obligations under article 9 and take the form of General Recommendations, Specific Situations in a Given State Party, Specific Forms of Racism and Racial Discrimination, or Specific Articles of the Convention, see Gomez del Prado, J., 1985, pp. 508-512; and see Banton, M., 2000, pp. 60-68.

[598] See Ivanov, S.A., 1991, pp. 153-163; See also Sand, P.H., 'New Approaches...', 1991, p. 198.

[599] Samson, K., 1994, pp. 126-130.

[600] Articles 19(5)(e) and 19(6)(d) of the ILO Constitution.

[601] See Higgins, R., 1994, p. 108. On missions, by invitation, of the CERD Committee, see M. Banton, 2000, pp. 65-66.

[602] See e.g., Müllerson, R., 1991, p. 126.

[603] Dimitrijevic, V., 1993, p. 13.

[604] See e.g. on CEDAW Committee practice, Bustelo, M. 2000, pp. 91-92.

treaty bodies resort to other sources of information through the media, intergovernmental organizations and NGOs.

Finally, a somewhat different type of mandate is found under the Climate Change Convention and Kyoto Protocol. Initial country reports or "communications" under the Convention are to be subject to an in-depth review, which in turn should be carried out by expert review teams. The purpose of the review of initial communications is to be facilitative, non-confrontational, open and transparent in order to assist parties in carrying out their responsibilities.[605] On the basis of discussion in the Intergovernmental Negotiating Committee for a Framework Convention on Climate Change (INC),[606] the COP decided on the method by which initial country reports (from Annex I parties) are examined.[607] The in-depth review process is not necessarily a device for the control of compliance proper. Rather, the reports, which are non-judgmental and diplomatically worded, are a means of finding out *how* parties go about reaching the results they do.[608] They reflect particular national circumstances at the time of compilation of the reports, taking account of such factors as biomass situation, decisions to develop or phase out nuclear power, and many other factors contributing to a state's compliance with the goals set in the Convention. The expert group assessment of a country situation does not rely only on the parties' reports, but on visits to the country concerned, and meetings with a wide array of governmental agencies and non-governmental organizations, all in an open and frank way. Thus the in-depth reviews, rather than being either verification or NCPs proper, have become more a

---

[605] The first reports of developed-country Parties to the Climate Change Convention were due on September 21, 1994, see further Oberthür, S., 1994, pp. 299-300; They were dealt with on a preliminary basis and a synthesis produced by a group of experts: For the example of information submitted before the First COP to the FCCC see: *First Review of Information Communicated by Each Party Included in Annex I to the Convention*, 29.3.1995, FCCC/1995/Inf.4. and FCCC/CP/1995Inf.4/Corr.1. And see INC: *First Review of Information Communicated by Each Party Included in Annex I to the Convention*, 7.12.1994, A/AC.237/81.

[606] See INC: *Report of the Intergovernmental Negotiating Committee for a Framework Convention on Climate Change on the Work of its Tenth Session held at Geneva from 22 August to 2 September 1994*, A/AC.237/76; and see INC: *Report of the Intergovernmental Negotiating Committee for a Framework Convention on Climate Change on the Work of Its Eleventh Session held at New York from 6 to 17 February 1995*, A/AC.237/91 and A/Ac.237/91/Add.1.

[607] FCCC: *Report of the Conference of the Parties on Its First Session*, Part II, Berlin, 28.3-7.4.1995, FCCC/CP/1995/7/Add.1, Decision 2/CP.1. and Annexes I, II and III., pp. 7-12.

[608] *Interview* with Mr. P. Stianssen, United Nations Climate Change Secretariat, Geneva, 11.7.1995; and see Bodansky, D., 2000, p. 372.

way of reaching a dialogue with the parties to the Convention, and a way of capacity and confidence building.[609]

Kyoto Protocol expert review teams are required to assess the implementation of the commitments and identify any potential problems and report thereon to the COP. The COP has to consider the report or information given by the Secretariat with the assistance of the SBI or the SBSTA, and to take "decisions on any matter required for the implementation of this Protocol". This wording in itself sounds like any other treaty text, but the potential of the new NCP that has been negotiated, and especially the prospects of some concrete enforcement measures under it, may yet bring a system remarkably different from most other environmental treaties.

Report contents

Generally the main aim of human rights reports is to gain information on how states have implemented a given treaty in their domestic legislation. Initial reports set, as it were, the "starting-point" for new states ratifying a convention, notably by providing an explanation of the relationship between the treaty and the domestic law of the country.[610] Further periodic reports, usually at two-to five-year intervals, then follow up the first one by reporting on progress made in achieving the goals or standards of the treaty. A central component of most reports should be information on the obstacles encountered in implementing the treaty and any such measures, which have been adopted to overcome the obstacles. The Human Rights Committee has stated that reporting under the CCPR should include information on the practices and decisions of courts and other organs of the state party and further relevant facts that are likely to show "the degree of actual implementation

---

[609] Ibid; *Interview* with Mr. R. Kinley, the United Nations Climate Change Secretariat, Geneva, 11.7.1995: Mr. Kinley then envisaged that, if nothing else, the fear of reciprocity would probably prevent the process from becoming a country-to-country discussion, and indeed, the new practice has proved him right. See e.g. FCCC/SBI/2000/CRP.14.

[610] See e.g. CCPR, *Guidelines Regarding the Form and Contents of Initial Reports from States Parties*, CCPR/C/5/Rev.2, 28.4 1995; for an example of an initial report, one by Latvia to the Human Rights Committee under the CCPR, see *Consideration of Reports Submitted by States Parties Under Article 40 of the Covenant*, CCPR/C/81/Add.1/Rev.1, 19.10.1994; And see the Committee's efforts at helping states Parties meet their reporting obligations, Human Rights Committee, 74th Session, 27.3.2002, press release under http://www.unhchr.ch/huridoc/.

and enjoyment of the rights recognized in the [CCPR]".[611] This is an example of a recognition of the need to gain information about more than "mere" legislation, but expectations of content are here still phrased in general terms, and leave much discretion to states, with the ensuing problem that reports may be incompatible, focusing on detail when overall information is required, or on general discussion when detailed accounts of actual practice should be needed.[612]

As seen in the examples of treaty provisions referred to above, environmental reports may also contain references to **a)** implementing legislation, **b)** administrative structures, or **c)** decisions of courts and other judicial organs, as well as to progress made and **d)** problems encountered under any of these. Requirements may also include information on **e)** implementation mechanisms, for instance permit or licensing systems. But reports under environmental treaties differ considerably from their human rights counter-parts in that they additionally contain much more **f)** technical and scientific information, often statistics and data on substances, emissions, or procedures (i.e. actual physical behaviour) when such are regulated in a treaty, much of which may be beyond the reach of the non-natural scientist reader. Physical data in reports is usually related to implementing measures under the treaty itself, such as greenhouse gas inventories, and more seldom to other (than treaty-regulated) **g)** environmental behaviour and its ecological effects.[613] Initial reports exist in some treaties, and just as under human rights treaties, their rationale is to provide a basis for further reporting. For instance the parties to the Montreal Protocol are required to report on statistical data on their production, imports and exports of controlled substances for the year 1986, which was the year before the adoption of the Protocol, and, since the London amendments to the Protocol in 1990, the equivalent data for added substances for the year 1989.[614] Likewise, parties to the 1991 VOC Protocol to LRTAP are required to submit reports on levels of emissions of volatile organic compounds in its territory for a year to be

---

[611] See *Compilation of General Comments and General Recommendations Adopted by Human Rights Treaty Bodies*, 29.7.1994, HRI/GEN/1/Rev.1, p. 3.

[612] For the equivalent problems of discretion in communications to the Human Rights Committee, and especially criteria on how they should be deemed admissible, see Steiner, H., 2000, pp. 15-53.

[613] See further Bodansky, D., 2000, p. 369; and look further on resource and trade data to be exchanged under the International Tropical Timber Agreement, Geneva, 18.11.1983, in force 1.4 .1985.

[614] See Montreal Protocol, Article 7(1) and the amended Article 7(1) and 7(2).

taken as a base year for calculations.[615] An interesting qualitative expectation is found in the VOC Protocol to LRTAP, which requires parties to include in their annual reports **h)** any revisions which may be necessary for reports already made for earlier years.[616]

The COP, or equivalent executive body, is often mandated to establish the form and intervals of the reporting requirement.[617] Under some conventions, guidelines have been elaborated to help states fulfil their reporting duties, and these sometimes come in very clear format and are available on the internet.[618] Under the Nuclear Safety Convention, for example, reports address each obligation under the Convention separately, and should demonstrate how the obligations have been met. Also, reports indicating that a particular obligation has not been fulfilled, or that there have been problems in relation to it, should state **i)** what measures are being taken or planned to meet the obligation.[619]As exemplified by the amended Mediterranean Convention, many treaties also include their protocols and, more importantly, recommendations taken under them in the reporting requirements. Broadening the questions covered is a positive development, particularly when (as is often the case with framework conventions) protocols and recommendations are the documents that set concrete objectives for pollution prevention.[620] In this context the example of the ILO and its requirements on reporting also on non-ratified conventions is useful. Presumably, better results can be achieved when states are pressured to share information

---

[615] Article 8(1).

[616] Article 8(2)(a).

[617] See e.g. Biodiversity Convention, Article 23(4)(a) and www.biodiv.org/natrep/index for a summary of decisions the COP has taken on national reporting format and intervals (4 years). In the FCCC system dead-lines for the submission of reports are decided by the COP; for Annex I states, see e.g. FCCC: *Report of the Conference of the Parties on Its First Session*, Part II, Berlin, 28.3-7.4.1995, FCCC/CP/1995/7/Add.1, Decision 3/CP.1, pp. 13-14.

[618] See e.g., INC: *Guidelines and Procedures for First Communications*, December 1993, A/AC.237/45 and A/AC.237/45/Add.1. For an example of report data formats, see www.ospar.org/eng/html/formats; Under the Montreal Protocol, see http://www.unep.org/ozone/reports.shtml#dataforms; For a reporting system, which is not treaty based, see the CSD (the Agenda 21 follow-up body) guidelines for national reporting http://www.un.org/esa/agenda21/natlinfo/niau/csd9/csd9.htm

[619] Article 21 and 22 of the Convention and Article 2 of the Annex; A MOP to the Convention has specified the form and structure of reports to be submitted, dates for submission, and the process for reviewing them. Intervals will be no longer than three years, since that is specified for review meetings. For national reports presented to the First Review Meeting in 1999, see www.iaea.org/worldatom.

[620] See further Bodansky, D., 2000, p. 368 on positive correlation between specific obligations and better reporting and review processes.

even on **j)** their intentions, that is, steps they may - or may not - be taking in order to prepare for joining a particular treaty.

Both the amended Mediterranean Convention and the Biodiversity Convention refer to **k)** "the effectiveness" of measures taken to implement the treaties as something to be reported on. Neither treaty defines in any way the term "effectiveness". This is hardly surprising, but makes for a wide range of discretion for states to set whatever parameters they find suitable in their reports. Thus, unless clear guidelines have been set, there are no objective criteria for "effectiveness" in compliance, and, for instance, the subjective views of a governmental official writing a report may be determinant. This naturally weakens the quality of reports and makes it more difficult to compare them,[621] a fact that again underlines the importance of NGOs in verifying the contents of state reports.[622] And finally, reports under environmental treaties may contain information on **l)** particular punishments and penalties given under legislation prompted by the treaty. Here, the MARPOL requirement to report on penalties imposed for infringement of the Convention is a clear example.[623]

Exceptions

The strictly treaty-based reporting procedures "embody" their own exceptions: reporting requirements are not phrased as general rules with exceptions, they are by definition limited to the contents of the initial agreement or further, still usually consent-based, developments of the substantive rules. Thus a state does not report on "everything" minus exceptions for defence or intellectual property rights or the like (in clear contrast to the third "phase", which is concerned with individual rights and discussed in Chapter Four), it reports on its achievements in relation to implementation of or compliance with particular substantive rules or framework principles.

In some environmental treaties, however, the scope of application of exceptions to states' information duties may be worded so broadly that they could be read to cover the reporting

---

[621] See ibid., p. 370.

[622] See Handl, G., 1991, pp. 72-75.

[623] Article 11(1)(f), see *supra.*

obligation as well. This is then either intentional or an extra cautionary measure, but is nonetheless often unnecessary given that treaty texts usually define and enumerate what aspects of the treaty states are to report on. Finally, the low quality of some reports may also be indicative of unwillingness, rather than always being a sign of inability, of reporting on some issues.

Compliance with reporting obligations

Human rights and environmental treaties struggle with very similar problems when it comes to compliance with reporting obligations. Currently over 1,300 reports to the main United Nations human rights treaties are overdue.[624] Many other reports, although submitted, lack in comprehensiveness and depth, and even when submitted, the reviewing institutions themselves often do not have sufficient time and resources to engage in proper discussions over the report contents.[625] The issue of compliance with reporting obligations was addressed, for instance, during the World Conference on Human Rights held at Vienna in June 1993,[626]and it has repeatedly been dealt with since then by the General Assembly and the Meeting of the Chairpersons of the Human Rights Treaty Bodies, as well as by NGOs and publicists.[627]In their general comments and recommendations the human rights treaty bodies themselves have also pointed out problems with compliance.[628] For instance,

---

[624] The United Nations High Commissioner for Human Rights (UNHCHR; formerly UN Centre for Human Rights, UNCHR), International Instruments Branch, keeps up-dated lists of the status of state party reports to be submitted to the principal international human rights instruments, under http://www.unhchr.ch/. For comparison, see also *Study by the Independent Expert on Enhancing the Long-Term Effectiveness of the United Nations Human Rights Treaty Regime*, A/CONF.157/PC/Add.11/Rev.1 for the situation in the early 90s; and for 1993 and 1998, see chart at p. 5 in Crawford, J., 2000, as adapted from Alston, P., *Final Report on Enhancing the Long-term Effectiveness of the United Nations Human Rights Treaty System* , 7 March 1997, E/CN.4/1997/74; For CEDAW, see Bustelo, M., 2000, p. 84. But *contra* on the excellent reporting record under e.g. the European Social Charter, see Harris, D., 2000, p. 348.

[625] Generally on the backlog problem under human rights treaties, see Crawford, J., 2000, pp. 4-6. For CEDAW, see Bustelo, M., 2000, p. 84-93; but *contra* for CERD see Banton, M., 2000, p. 60. : "although the number of incoming reports has been increasing, the Committee has not allowed any backlog of unconsidered reports to build up".

[626] See Amnesty International, *World Conference for Human Rights. Facing up the Failures: Proposals for Improving the Protection of Human Rights by the United Nations*, London, 1992.

[627] For examples of African states' reporting under human rights treaties, see Hatchard, J, 1994; and Viljoen, F., 2000.

the Commission on Human Rights has frequently discussed the problem of overdue reports.[629]

No comprehensive compilations of over-all figures for reports due, or incomplete or poor reports for global environmental treaties are yet to be found. That is probably mainly because most treaties are relatively recent and the system is less coherent and less coordinated than in, for instance, the human rights field. By way of examples of early reporting problems, the Marine Environment Protection Committee of the IMO in 1992 regretted that most states parties to the MARPOL 73/78 had not submitted the mandatory reports under the Convention. Only 20% of arties had submitted reports since the 29th session of the Committee in 1990. In 1992 more than 30 parties to MARPOL had never, since the entry into force of the Convention in 1983, submitted a report to the IMO.[630] The parties to the Montreal Protocol first fulfilled their reporting obligations very conscientiously for 1986, the first year data was required. After the initial reporting boom, compliance with the requirement dropped sharply,[631] rising again slightly after the mid-1990s.[632] Under the Basel Convention, the first round of reports in 1992 caused problems because of the recent entry into force of the Convention. For the year 1993 roughly two

---

[628] Some treaty bodies have issued documents specifically on the status of reports due, see e.g. Committee on the Elimination of Racial Discrimination: *Submission of Reports by States Parties in Accordance with Article 9 of the Convention*, 27.6.1994, CERD/C/265; For instance, the Human Rights Committee, charged with monitoring the CCPR, has noted that "the fact that most States parties have [...] engaged in a constructive dialogue with the Committee suggests that the States parties normally ought to be able to fulfil the reporting obligation ... and that it would be in their own interest to do so in the future". *Compilation of General Comments and General Recommendations Adopted by Human Rights Treaty Bodies*, 29.7.1994, HRI/GEN/1/Rev.1, p. 3; and it has also noted that only that part of reporting provisions, which require initial reports has become regularly operative, and that many reports submitted are too brief and general, lacking in substance, etc., See also the Committee's efforts at helping states Parties meet their reporting obligations, Human Rights Committee, 74th Session, 27.3.2002, press release under http://www.unhchr.ch/huridoc/.

[629] See e.g. Commission on Human Rights: *Effective Functioning of Human Rights Mechanisms: Treaty Bodies*, E/CN.4/2002/110, 7.12.2001, found under http://www.unhchr.ch/Huridocda/

[630] See IMO News No. 2, 1992, on the 32nd session of the Marine Environment Protection Committee, 2-6.3.1992, p. 9, and see Chayes, A. & A.H. Chayes, 1995, pp. 156-157, on IMO, and esp. on early Soviet misreporting to the International Whaling Commission; And see Bodansky, D., 2000, p. 375 on early inadequate reporting under CITES; and see also further under http://www.cites.org/ where national reports are not directly found, but Standing Committee acknowledges that reporting has improved after the adoption of resolutions 11.37 and 11.89 on determination of failures to report and the possibility for listing those parties and further suspension of trade with those parties, look at http://www.cites.org/eng/cttee/standing/46/agenda.shtml for CITES SC46 Doc. 17, 12-15.3 2002 and esp. Annex listing received and due reports since 1997.

[631] See Koskenniemi, M., 'Breach of Treaty or...', 1992, p. 130.

[632] By September 1997 some 74% (113 out of 152 Parties) had reported for the year 1995, see UNEP/OzL.Pro.9/12, 25.9.1997.

thirds of the parties to the treaty submitted reports. Parties from developing countries had particular difficulties in fulfilling their obligations. In response, the first two Conferences of the Parties in 1992 and 1994 took decisions that urged the parties to fulfil their reporting obligations[633] but, despite those efforts, reporting frequency under the Convention fell somewhat to about 44% for 1994.[634]

In the early 1990s, it was thus noted that poor compliance with reporting obligations and low quality of reports posed major problems.[635] Sachariev envisaged two main ways of dealing with the problem: firstly, precise deadlines for the submission of reports, and, secondly, some measure of pressure or "threat" by the reviewing organ to rely on estimates if the state does not report.[636] A well-known example of a method for sanctioning non-compliance with reporting procedures is found within the Montreal Protocol under which a decision has been taken to the effect that a party hoping for special status as a developing country will not be eligible unless it submits the required data on its consumption.[637] A later example is found under CITES, where failure to report can now lead to recommendations for suspension of trade with parties.[638]

---

[633] For reports received between May 1992 and March 1994, see Reporting and Transmission of Information Required Under the Basel Convention, June 1994, SBC No. 94/007; For reports received between July and October 1994 see Second meeting of the Open-ended Ad Hoc Committee for the implementation of the Basel Convention: Reporting and Transmission of Information Required Under the Basel Convention, 17.11.1994, UNEP/CHW/C.2/1/INF.9. See also No. 6 Managing Hazardous Wastes, Newsletter of the Basel Convention, March 1995; Basel Convention: Decisions Adopted by the First (1992) and Second (1994) Meetings of the Conference of the Parties, June 1994, UNEP/SBC/94/008, see Decisions I/11 and II/17. However, with the exception of some countries mentioning difficulties they had with reporting, the second COP showed very little debate on reports; Interview with N. Basavaraj-Schroth, Basel Convention Secretariat, Geneva, 11.7.1995.

[634] 49 (out of 111) reports were received by late October 1997 for data for the year 1994, UNEP/CHW.4/18 and UNEP/CHW.4/18/Corr.1.

[635] See particularly International Environment: International Agreements Are Not Well Monitored, United States General Accounting Office Report to Congressional Requesters, January 1992, GAO/RCED-92-43; And see Sachariev, K., 1991, pp. 42-43.

[636] Sachariev, K., 1991, pp. 42-43.

[637] For further examples of sanctioning non-compliance, ibid., p. 43.; And see Decision II/10, UNEP/OzL.Pro.2/3 (1990).

[638] The Standing Committee acknowledges that reporting has improved after the adoption of resolutions 11.37 and 11.89 on determination of failures to report and the possibility for listing those Parties and further suspension of trade with them, look at http://www.cites.org/eng/cttee/standing/46/agenda.shtml for CITES SC46 Doc. 17, 12-15.3 2002.

Clearly, some progress has been made under a few treaties since the earliest reporting exercises. The Basel Convention parties have slowly improved their record, so that nearly half the parties reported for the year 1998 and nearly 60% for the year 1999.[639] Only three Parties out of fifty failed to submit reports to and attend the First Review Meeting of the Nuclear Safety Convention in 1999,[640] and under the Environment Protocol to the Antarctic Treaty a good number of national reports have been turned in and made publicly available.[641] The Biodiversity Convention has developed its reporting system, and also received first reports by about half of its parties.[642] But the biggest success among global treaties is probably found under the Climate Change Convention, where industrialized countries have very good reporting records, both for initial and subsequent communications,[643] and developing countries are following suit,[644] especially after some financial resources and technical support have been made available.[645]

---

[639] 87 reports were received for 1999, 72 for 1998, and 62 for 1997; For the Secretariat's Country Fact Sheets prepared on the basis of the national reports, access under http://www.basel.int//pub/.

[640] One further party sent its report, but did not attend. All four were developing countries, and their non-compliance was published in the CNS: *Summary Report of the Contracting Parties' First Review Meeting*, see Nuclear Installations Safety Net (NUSAFE): www.iaea.org/worldatom/Documents/Legal. The Report also notes that "the National Reports submitted were in most cases of high quality and provided ample information on steps and measures taken and in progress to implement the obligations... of the Convention. [...A]ll questions asked by Contracting Parties in the review process were addressed by respondent Parties. The discussions in the Country Group sessions and the Plenary sessions were open and constructive, illuminating issues of special interest, providing additional insights with regard to national safety programmes, and generally demonstrating the strong commitment of each participating Contracting Party...", p. 2.

[641] For some very preliminary comments, see Rothwell, D., 2000, pp. 591-614.; Esp. for all publicly available documents, see at http://cep.npolar.no//OldBs/cephome.htm; and for those national annual reports for both Convention and Protocol submitted together at CEP III, 2000, at http://cep.npolar.no//Innhold/cep_archive/CEP_III_Documents.htm

[642] By the deadline on 1 January 1998 the CBD Secretariat had received 16 reports, but by the end of March 1998 it had received 86 reports, representing about half of the parties. Second reports were due on May 15 2001 to be dealt with at COP 6 in April 2002. Look at http://www.biodiv.org/world/reports.asp.

[643] For exceptionally clear electronic accessibility (or indications of hard-copy availability) of all national reports, see at http://unfccc.int/resource/natcom/index.html.

[644] For industrialized countries (who have all submitted initial communications) *cf.* e.g. that by April 1998, 23 of 25 Parties had submitted second national communications that had been due in April 1997, UN Doc. FCCC/SBI/1998/INF.1, and by February 2002, 35 (out of 39) parties had submitted their second national communications. By February 2002, 18 (out of 39) parties had submitted third national communications. By February 2002, only one country, Belarus, had not submitted any of the three communications required. For developing countries *cf.* that by April 1998 only eighth parties had submitted (several incomplete) initial communications, which were due in March 1997, FCCC/SBI/1998/INF.3, and by the end of 2001 all non-Annex I parties had submitted their initial communications and one party, Mexico, had submitted its second national communication.

But several treaty secretariats still do not publish data on reports due, let alone mention the names of the parties that have neglected reporting.[646] Undoubtedly, and despite the defence of lack of funds that many countries put forward, the great number of overdue reports detracts from the credibility of the entire reporting system. Just as in the human rights field,[647] this is therefore where the role of non-governmental organizations becomes crucial.[648] Neither human rights nor environmental NGOs usually have formal access to participation in reporting procedures,[649] but their material may nonetheless be very valuable.[650] There are some notable exceptions: the Committee against Torture (CAT) can ask NGOs for oral or written submissions;[651]the Committee on Economic, Social and Cultural Rights (ESCR) receives both oral and written submissions from NGOs;[652] and, finally, the Committee on the Rights of the Child (CRC) can ask specialized agencies, UNICEF and other competent bodies for expert advice, a provision which has in practice led to both written and oral NGO submissions, that is, alternative and more critical reports.[653] Among environmental treaties, CITES stands out as the example of a treaty with

---

[645] *National Communications from Parties Not Included in Annex I to the Convention. Provision of Financial and Technical Support*, FCCC/WEB/2001/2, 25.10 2001.

[646] For treaty secretariats that still (as in February 2002) fail to give out numbers, or country-names, of missing reports on their internet homepages, see e.g. under Vienna Convention and Montreal Protocol at http://www.unep.org/ozone.

[647] On human rights "reporting" and information gathering done by NGOs, governments and various research institutions, see e.g., Innes de Neufville, J., 1986, pp. 681-699; Skogly, S.I., 1990, pp. 513-528; And see generally, Alston, P., ed, *The United Nations...*, 1992; Brett, R., 1993, pp. 121-144; Buergenthal, T., 1995, pp. 321-323; Viljoen, F., 2000, p. 116;

[648] Buergenthal, T., 1995, pp. 321-323; *Cf.* Sixth and Seventh Chairpersons' Meetings, A/50/505, para. 23 and A/51/482, para. 35-36.

[649] On formal grounds for NGO participation, see generally, Knox, J.H., 2001, pp. 25-26, where the author also discusses Chayes, A. & A. H. Chayes, 1995, p. 249, lack of reference to the formal grounds for NGO, and expertise, participation in managerial methods.

[650] For the example of CEDAW, where neither the Convention nor the Committee's rules of procedure allow for formal NGO participation, but where recent practice has led to NGO involvement in the formulation of general comments and in providing country specific information, see further Bustelo, M., 2000, pp. 105-108. *Vis-à-vis* environmental treaties, see Bodansky, D., 2000, pp. 374-376.

[651] See Amnesty International, *World Conference for Human Rights. Facing up the Failures: Proposals for Improving the Protection of Human Rights by the United Nations*, London, 1992, p. 36; Bank, R., 2000, p. 151; Clapham, A., 2000, pp. 182-184.

[652] See Leckie, S., 2000, pp. 133-134 on ESCR Committee and alternative sources of information which facilitate "the adoption of some forceful concluding observations'.

some stronger ties to NGOs and their independent information, against which to assess national reports.[654] The tasks of NGOs, especially coalitions of NGOs, are in influencing the preparation of reports at the national level, in raising public awareness through the media when human rights violations - or environmental harm[655] - is discerned, and in providing information against which to verify the correctness of state reports. In some instances such NGO "verification" has strongly influenced the character of the human rights report review situations as well as Committees' comments.[656] Access to reports and their background material is thus crucial.[657]Although some countries have reasonably strong legislation on public access to government documents, globally this is a topical issue of great concern, and it will be further discussed in chapter 4.

Problems still exist in relation to compliance with environmental reporting requirements, and the level of detail may vary considerably[658] despite guidelines.[659] Yet a new and somewhat surprising phenomenon has also evolved. Under some treaties, particularly the Climate Change Convention, and to some extent also the Biodiversity Convention, many reports are bright, costly publications designed by publicity specialists, making use of many colour pictures and graphs - quite the opposite of ordinary bureaucratic reports. The

---

[653] Under CRC Article 45. See Brett, R., 1993, pp. 138-139; and further Theytaz-Bergman, L., 1996, pp. 537-538; and further see Lansdown, G., 2000, pp. 118-122, on reporting as a process with a national dimension.

[654] CITES uses esp. two NGOs for information: the World Conservation Monitoring Unit's database of compilations of national reports and TRAFFIC (Trade Records Analysis of Fauna and Flora in Commerce) information on illegal trafficking in wildlife.

[655] Further on the roles of NGOs in environmental law, see Sands, P. & A. Bedecarré, 1990, pp. 799-822; Sands, P., 1991, pp. 61-68; Tolbert, D., 1991, pp. 95-108; Livernash, R., 1992, pp. 12-43; Kiss, A., 1992, pp. 14-15; Doherty, A., 1994, pp. 199-218; Sjöstedt, G., B.I. Spector & W. Zartman, 1994, pp. 233-249; ibid., pp. 3-19; Princen, T. & M. Finger, 1994; Schweitz, M.L., 1995, pp. 415-420; Sikkink, K., 1995, pp. 413-415; Ponce-Nava, D., 1995, pp. 131-140; Burhenne, W.E., 1995, pp. 207-219; Werksman, J., 1996; French, H, 1996, pp. 251-258.

[656] Generally see Steiner, H. & P. Alston, 1996, pp. 457-470; On the crucial role of NGO reports for the ESCR Committee's "ad hoc complaints procedure", Craven, M, 1994, p. 91-113. The author writes that the Committee has developed a "quasi-judicial competence" in its role as supervisory body;.*Cf.* Leckie, S., 2000, pp. 133-134; and *cf.* other examples of NGO influence by Clapham, A., 2000.

[657] Vasak, K., 1982, p. 225. See Leary, V., 1992, for a commentary on the closed meetings and subsequent lack of publicity of the ILO Committee of Experts, p. 597; Generally, see Alston, P., 2000, pp. 512-515.

[658] On problems and successes encountered with communications from non-Annex 1 countries of the FCCC, see FCCC/SBI/2000/L.5.

[659] See e.g. under the Montreal Protocol, http://www.unep.org/ozone/reports.shtml#dataforms. For a reporting system, which is not treaty based, see the CSD (the Agenda 21 follow-up body) guidelines for national reporting http://www.un.org/esa/agenda21/natlinfo/niau/csd9/csd9.htm

visibility of the reports, for instance on the Internet, in conjunction with their relatively good quality substantively, could well be an indication that reporting is taken seriously.[660] It seems that it became something of a trend in the 1990s to use the reports as an environmental public relations tool. That would call for certain caution and independent verification. On the other hand, the practice by some treaty secretariats and by individual countries themselves to make reports available on the internet has made them considerably more accessible to researchers, the general public, NGOs and governments alike, and this trend again should raise the value of reports.[661] The internet would then function as a carrot for governments.

Problems encountered

Although the problems with fulfilling reporting requirements are very similar in the two areas, ameliorating efforts have been much more broadly discussed in the human rights area than in the environmental one, maybe because the former has had more time to create both backlogs and some views on where the main problems lie. Experience gained from some major problems in human rights reporting could serve as lessons learned for environmental reporting (but maybe also *vice versa*) to the extent that a small number of environmental institutions have developed more sophisticated procedures. The large number of reports to be submitted to different human rights treaty bodies has been repeatedly discussed. Efforts to co-ordinate reporting between different bodies asking for very similar or even identical information have been topical at least since the mid-1980s.[662]

---

[660] Interview with Mr. R. Kinley, the United Nations Climate Change Secretariat, Geneva, 11.7.1995.

[661] See web pages of the CBD; FCCC; IAEA; OSPAR; HELCOM etc. On the web-pages of the IAEA's Nuclear Installation Safety Net countries now answer questions about their safety issues. Many countries also publish their own national reports on the internet, see e.g. Finnish pages: www.stuk.fi/ydinvoimalaitokset/nvr/safety-convention. For an example of country reporting related to compliance with the Antarctic Treaty, Articles III(1), VII(5) and Rec. VIII(6), and voluntarily posted on the internet, see Belgian pages: www.belspo.be/antar

[662] Cancado Trindade, A.A., 1987, pp. 314-356; The chairpersons of the human rights treaty bodies have recommended measures, *inter alia*, on reducing the burden of reporting, see e.g. *Improving the Operation of the Human Rights Treaty Bodies*, Fifth Meeting of Chairpersons of Treaty Bodies, 19-23.9.1994, HRI/MC/1994/2. See also equivalent First Meeting, 16-17.8.1984, A/39/484; Second Meeting, 10-14.10.1988, A/44/98; Third Meeting, 1-5.10.1990, A/45/636; Fourth Meeting, 12-16.10.1992, A/47/628; The Vienna World Conference on Human Rights made recommendations on the implementing functions, and more specifically, on the co-ordination of reporting requirements of the human rights treaty bodies, see the Vienna Declaration and Programme of Action, adopted by the World Conference on Human Rights 25.6.1993, A/CONF.157/23, Part II, E. See also the Vienna Statement of the International Human Rights

For instance, the General Assembly has recommended the designation of specific national administrative units to co-ordinate reports to different treaty bodies, and urged the treaty bodies to consider the utility of single comprehensive reports and of replacing reports with specifically tailored reports and thematic reports.[663] Other reforms, such as the establishment of cross-treaty body working groups and streamlining the timing of different reports have been suggested, as well as more radical propositions of a single, comprehensive treaty body to deal with reports under the different human rights treaties.[664]

Developing countries in particular often lack the resources, both financial and administrative, to research, monitor, and write the various reports.[665] Guidelines for the form and contents of initial and periodic reports,[666]and guidelines for so-called "core documents" on the general information required under most human rights treaties,[667] have been elaborated. For instance, the Commission on Human Rights is continuously trying to improve its training and assistance in reporting through fellowship programmes,[668] funding, by aiming at rationalizing and simplifying the reporting obligations, for instance through

---

Treaty Bodies, A/CONF.157/TBB/4; and see the interim report on the updated *Study by the Independent Expert on Enhancing the Long-Term Effectiveness of the United Nations Human Rights Treaty Regime*, A/CONF.157/PC/Add.11/Rev.1.

[663] *Effective Implementation of International Instruments on Human Rights, Including Reporting Obligations under International Instruments on Human Rights*, 23.12.1994, A/RES/49/178. The General Assembly has considered the issue of reporting to human rights treaty bodies at each of its sessions since 1982. The first resolution was 37/44 of 3.12 1982: On utility of thematic reports, see Banton, M., 2000, pp. 70-71.

[664] See Alston, P., *Final Report on Enhancing the Long-term Effectiveness of the United Nations Human Rights Treaty System*, 7.3.1997, E/CN.4/1997/74; and see Clapham, A., 2000, pp. 195-198 on the "governmentalization" of treaty bodies and remedies in the form of creation of a permanent professional treaty body to review all reports; and see Scott, C., 2000.

[665] Higgins, R., 1994, p. 109.

[666] See e.g. CESCR: *Revised General Guidelines Regarding the Form and Contents of Reports to be Submitted by States Parties under Articles 16 and 17 of the International Covenant on Economic, Social and Cultural Rights*, E/C.12/1991/1; CCPR, *Guidelines Regarding the Form and Contents of Initial Reports from States Parties*, CCPR/C/5/Rev.2; CERD: *General Guidelines Regarding the Form and Contents of Reports to be submitted by States Parties under Article 9, Paragraph 1, of the Convention*, CERD/C/70/Rev.3; CRC: *General Guidelines Regarding the Form and Content of Initial Reports to be Submitted by States Parties under Article 44, paragraph 1(a) of the CRC, UN Doc CRC/C/5; and General Guidelines Regarding the Form and Content of Initial Reports to be Submitted by States Parties under Article 44, paragraph 1(b) of the CRC, UN Doc CRC/C/58*; On reporting guidelines under the African Charter, see Viljoen, F., 2000, pp. 111-113.

[667] *Preparation of the Initial Parts of State Party Reports ("Core Documents") under the Various International Human Rights Instruments*, HRI/CORE/1, 24.2.1992.

[668] The UNHCHR and the United Nations Institute for Training and Research (UNITAR) have organized regional training courses for persons responsible for preparing periodic reports.

core documents and cross-referencing practices,[669] and by revising the *Manual on Human Rights Reporting*, which is aimed at assisting reporting and providing continuity for the process.[670] As an effort to encourage states to report, the Manual repeatedly points out that reporting procedures are not meant to put states in a bad light but rather to assist them in identifying problems and to point out remedies. But states' reporting difficulties are by no means the only ones: the treaty reviewing bodies themselves are in backlog. Lack of resources, both staff, time, funding, and access to simple technology,[671] are the main culprits for mounting un-read and un-processed reports, the utility of which are then highly dubious, except perhaps as internal, national writing exercises, which in any case, may be one of the most important aspects of the reporting process. And this is the crux of the matter: that sometimes those national writing exercises happen without public scrutiny, and the filing of reports to an international body of peers (which may not even have time to consider it) becomes the main way for some states of fulfilling treaty obligations.[672] The capacity and willingness of states to make their own writing process more transparent and open to local scrutiny, and the willingness of states, under the treaties, to make their final reports publicly available to anyone become "tests" of at least part of the utility of the reporting systems. This again highlights the issue of resources, especially to technology, as electronic dissemination seems the easy solution to all report accessibility, yet it is far from the reality of most people in developing countries.

Reporting under many environmental treaties requires access to very sophisticated information, the collection and assessment of which is dependent on resources at the national level. Calls for a "diversity of sources" have in the human rights arena usually

---

[669] In 2001, 115 states had submitted core documents, and several states had started using cross-references to avoid duplication of texts, see Commission on Human Rights: *Effective Functioning of Human Rights Mechanisms: Treaty Bodies*, E/CN.4/2002/110, 7.12.2001, p. 4., found under http://www.unhchr.ch/Huridocda/. On funding, ibid.

[670] *Manual on Human Rights Reporting Under Six Major International Human Rights Instruments*, United Nations, New York, UN Doc HR/PUB/91/1 rev. 1997, sales No. GV.E.97.0.16, and at http://www.unhchr.ch/pdf/manual/hrr.pdf. The Manual currently exists in English and Spanish, and versions in Russian, French, Arabic and Chinese are planned, as well as updating related to new reporting requirements under the CRC and its two new Optional Protocols.

[671] See Alston, P., in Final Report, 7.3.1997, UN Doc. E/CN.4/1997/74, para. 84; And see e.g. Crawford, J., 2000, pp. 6-7; and for CRC see Lansdown, G., 2000, p. 125; for CERD see Banton, M., 2000.

[672] See Leckie, S., 2000, p. 131. On NGO participation in report drafting, see Clapham, A., 2000, pp. 190-192.

meant the inclusion of NGO material,[673] but in the environmental field this may be much broader still, including, because of demands for scientific accuracy, especially many technical and scientific bodies and institutions' information. The enormous data-load, very specialized knowledge (which often is beyond the understanding of any bureaucrats, lawyers or politicians), and technical needs, both simple computerization and highly advanced monitoring technology, together with the great number of treaties, mean that there is enormous need for technical help, particularly for developing countries, as well as for countries in transition to market economy.[674] In fact the workload has become heavy for any government, and not just those with small administrations. In response to these problems, some newer treaties have arrangements to help parties complete their reporting requirements.[675] Even where most parties are developed countries, the problem of coordinating and streamlining overlapping information requirements, for example between framework conventions and their protocols,[676] have been addressed, and some initial coordinating efforts are being taken between UNEP-hosted environmental treaties, also in streamlining reporting requirements between the agreements.[677] Most recently, the need has been voiced to minimize use of paper copies and revert to web-based information-exchanges and dissemination to the public.[678] Web-based reporting would fulfil both state-

---

[673] But *contra*, see Gallagher, A., 2000, for a discussion on other key partners than the traditional NGOs in human rights protection, e.g. the role of independent national human rights institutions and the technical support given by treaty bodies.

[674] Some countries have pointed at difficulties related to the scarcity of resources and availability of adequate data, see, for instance, Framework Convention on Climate Change: *Report of the Conference of the Parties on Its First Session*, Berlin 28.3-7.4.1995, FCCC/CP/1995/7, p. 21.

[675] Non-Annex I countries to the FCCC have a Consultative Group of Experts to help them with national communications, FCCC/SBI/2000/CRP.13. For the example of a decision to cut down on frequency and contents in so-called annual reviews, see pp. 4-5, ECE, Executive Body for the Convention on Long-Range Transboundary Air Pollution: *Report of the Fifteenth Session of the Executive Body*, 1998, ECE/EB.AIR/53.

[676] See e.g. early efforts to co-ordinate reporting between the Antarctic Treaty and the Agreed Measures for the Conservation of Antarctic Fauna and Flora, Recommendations of the Third Antarctic Treaty Consultative Meeting, Brussels 13.6.1964, 17 *U.S.T.* 992. Article XII(2) provides that "Each Participating Government shall inform the other Governments in writing before the end of November of each year of the steps taken and information collected in the preceding period of July 1st to June 30th relating to the implementation of these Agreed Measures. Governments exchanging information under paragraph 5 of Article VII of the Antarctic Treaty may at the same time transmit the information relating to the implementation of these Agreed Measures."

[677] On UNEP efforts to coordinate between (mainly its own) environmental treaties, see its Division of Environmental Conventions, which is tasked with identifying synergies and promoting collaboration amongst agreements, i.a. by publishing a bulletin, *Synergy*, accessible at http://www.unep.ch/conventions/; And esp. on streamlining under biodiversity-related Conventions, look under http://www.biodiv.org/world/reports.asp.

to-state information "circulation" requirements and have the benefit of making national reports and other information readily available to the public – provided, as just noted, that the technology is accessible in the first place.

Just as with human rights reports, the cost of environmental reporting may be an issue of great concern for many developing countries. It was noted already in the early stages of the Climate Change Convention that the costs of both limiting emissions and fulfilling reporting requirements should be properly studied by means of, for instance, country studies on the basis of which incremental costs of compliance could be ascertained.[679] Such studies were, and are still, necessary not least for the just development of financing mechanisms to help states with difficulties in fulfilling their obligations, both substantive and procedural. To this end, the Secretariats of some Conventions give technical advice to countries drafting their reports, and by way of a more concrete example, the Subsidiary Body for Implementation of the Climate Change Convention has made an arrangement with the Global Environment Facility (GEF) to provide financial and technical support to non-Annex I (developing) countries for the preparation of national communications.[680]

3.2.3. Functions

Attempts at trying to discern what functions or roles reporting procedures could have for environmental treaty obligations are perhaps by definition exercises in positive thinking.[681]

---

[678] See e.g. a Norwegian discussion paper, submitted at the 2001 CEP IV Meeting of the 1991 Protocol on Environmental Protection to the Antarctic Treaty, concerning measures to make reporting more efficient and co-ordinated (including the suggestion to convert fully to web-based reporting) between the 1959 Antarctic Treaty and the Protocol, look at http://cep.npolar.no//Innhold/cep_archive/Docs/CEP%20IV/English/wp24e.pdf; and on need for digitalisation of reports in human rights field, see Leckie, S., 2000, pp. 142-143.

[679] See Chayes, A. *et al.*, 1992, pp. 10-11.

[680] FCCC/SBI/2000/INF.8. On the Basel Convention Trust Fund, see UNEP/CHW/C.1/4/26, 30.6 1999 and *infra* ch. 3.3.

[681] E.g. Alston's categorization of functions for supervision in human rights must be intentionally optimistic: they largely coincide with those functions presented in the name of the human rights treaty body of which he was chairman, perhaps because it would be difficult to take seriously a treaty body that did not work hard to make its member parties fulfil the aims with what (albeit limited) means were available: Alston, P., 1991, pp. 14-16. See *Compilation of General Comments and General Recommendations Adopted by Human Rights Treaty Bodies*, 29.7 1994, HRI/GEN/1/Rev.1, pp. 43-45, for very similar objectives of state reports found in the general comments adopted by the Committee on Economic, Social and Cultural Rights in 1989. A stronger example of the same phenomenon is found in reports under the IAEA, but then that is not surprising:

But while it may be necessary to keep in mind that an "x-function" (all possible sceptic or even cynical views in a nutshell: a time-winning, a make-believe, a keeping-up-appearances, or a cosmetic or other pointless function) could sometimes be an accurate description of disbelief in a particular reporting procedure or review situation, some of the *huge* numbers of reports must be assumed to have constructive functions *vis-à-vis* environmental protection. This does not have to mean that all functions must be positive, at least not all of the time, nor that they need be simultaneously present. Some could play larger roles than others. What is more, it is perhaps obvious that even the existence of some constructive functions are not evidence that reporting and related procedures would necessarily be the best possible supervisory methods for environmental treaties.

At least three of the useful, and optimistic, functions mentioned by Alston in relation to human rights reporting seem directly applicable to environmental reporting as well:

1) "The initial review function" appears to be very much the same as in human rights reporting: part of the process of conforming a state's legislation and administrative and other practice to the convention a state is about to or has just joined. The importance of initial reports may be crucial for the continued process of periodic review precisely because they offer a point of comparison by which to assess progress in compliance.

2) "Policy formulation" is crucial in human rights, and just as in human rights, some changes in environmental behaviour may take longer to come about and may need long-term policy formulations and even changes in traditions rather than only changes in legislation.[682] Consumption patterns are a case in point; policy formulation lies at the heart of the "managerial" method of solving environmental problems, in contrast to decision-making/politics of some more confrontational or immediate kind.

---

the aim of the Agency is to promote the peaceful uses of nuclear energy, and its texts need perhaps reflect that the control systems it has developed are sufficient. The Agency dresses its optimistic approach in terms of learning processes by saying that "[b]eing a Contracting Party to this Convention entails a commitment to a continuous learning and improving process, something which is a key element of a high-quality safety culture", see CNS: *Summary Report of the Contracting Parties' First Review Meeting*, 1999, see NUSAFE: www.iaea.org/worldatom/Documents/Legal, p. 2.

[682] *Cf.* Bodansky's (2000, pp. 365-367) "policy reform function", which could include a range of more or less coercive methods, e.g. pressure from different actors on states to perform better and the national process of preparing a report.

3) An "evaluation function" to assess progress or lack of the same. This is made easier if an "initial review" is in use. Again, the information is mostly on legal matters, not so much on the real state of the environment.[683] Information is also important for the sake of reciprocity:[684] suspicion that others may be "free riders" or that some may be making huge profits when others try to meet agreements, may be motivating factors for information exchange. The free-rider problem does not exist in the same sense in the human rights field.

But there also seem to be some differences in nuance between the two fields:

4) According to Alston, the "monitoring function" of reporting is crucial to human rights law. In it, states must point at more than the *de jure* situation in the country, they must monitor actual events and practice and submit relevant, including statistical, information. Reports that lack this may be viewed with great scepticism. But, as much as technical monitoring is central to environmental verification, reporting may be a good source of information on policy and law, even if probably a less reliable way of acquiring "hard" scientific and technical data on the actual state of the environment, unless the former coherently and accurately integrate the latter, which it often does not. In contrast, as technical monitoring of human rights may be very difficult in a practical sense (satellites cannot detect mental abuse or torture in prisons etc.), and not as easily put into meaningful statistical data, reporting procedures are more central.

5) A compliance-enhancing (or non-compliance preventive) function which contains both public scrutiny and, through the light that reports in some cases may shed on non-compliance, the admission of problems in meeting, for instance, emission standards.[685] Reports can function as a basis for recognizing i.a. technical and financial needs, which in

---

[683] On the role of hard data from monitoring for the flexibility of a Convention, see Churchill, R.R., G. Kütting, L.M. Warren, 1995, p. 194: "The provisions for monitoring of both data and techniques should ensure feedback into the integrated assessment models so that emission ceilings can be adjusted if necessary using the clearly defined amendment procedures."

[684] See e.g. Bodansky, D., 2000, p. 363.

[685] *Cf.* Alston's "public scrutiny function" and "the function of acknowledging problems", *op.cit. supra.* In "the public scrutiny function", reports are important both for a government's international accountability and for its domestic accountability. Preparation of the report gives occasion to consult different social, economic and cultural and other sectors of society. *Cf.* Bodansky's "compliance function". See Lansdown, G., 2000, pp. 114-115, for attempts to enhance public scrutiny and participation at the national level under the CRC, where both reports and summary records of the state's dialogues with the CRC Committee are to be published.

turn, in an optimistic argument sometimes put forward as the main rationale for reporting procedures,[686] could lead to greater compliance. Also, the wider the legal (and political) powers an examining body possesses, the better equipped it is for pushing for greater compliance.[687] The development under the Kyoto Protocol to include an "enforcement" function will be interesting in this regard, and, if it materializes fully in the practice of parties to the Protocol, potentially ground-breaking for the way the utility of softer compliance-enhancing methods, such as report and review procedures, may come to be understood.

6) A dialogue function between the reporting state or states and a supervisory organ. This may be a more accurate way of describing reporting procedures than the compliance/preventive function mentioned above. It would also embrace the ideas that parties to treaties need room to admit problems, but it would be very cautious as to the prospects of direct effects of the review situation on compliance. The reason for calling discussions about reports dialogues is that the supervisory organs do not have any judicial or quasi-judicial functions. Instead, diplomatic parlance stresses that one of the rationales behind the dialogue is to assist the reporting state in carrying out its obligations under the treaty.[688] The role of reporting procedures is thus less the finding of single cases of non-compliance and more the achievement of a constructive assessment on progress made.[689] Although reporting procedures frequently form the basis for so-called NCPs under environmental treaties, there are several methods that may be better suited for proper non-compliance investigation: technical monitoring, and if ever they were more widely agreed upon, perhaps some on-site inspections, inquiries and fact-finding missions, and, as results

---

[686] *International Environment: Strengthening the Implementation of Environmental Agreements*, United States General Accounting Office Report to Congressional Requesters, August 1992, GAO/RCED-92-188, pp. 7-10.

[687] Harris, D., 2000, p. 360 on the experience of reporting under the European Social Charter writes that "the lesson of the ESC reporting system in this regard is that a system of supervision that does not result in a legally binding decision can suffer from problems of compliance" and "[u]nfortunately, states are not prepared, within either the Council of Europe or the UN, to agree to a reporting system that results in legally binding decisions. If one reason for this is that the purpose of such a system is to achieve improvement through constructive dialogue rather than confrontation, the general experience to date does not make this a wholly convincing argument."

[688] Pocar, F. & C. Bernard, 1991, p. 27; and see Viljoen, F., 2000, p. 118, n. 31, on the African Commission, which has said that the nature of the examination of reports is a "constructive dialogue".

[689] Sachariev, K., 1991, p. 41. And for the human rights context, see e.g. Balton, D.A., 1990, p. 128; Banton, M., 2000, pp. 69-73; Bustelo, M.R., 2000, pp. 85, 91-92; and Leckie, S., 2000, p. 132.

of these, various stronger non-compliance and complaint procedures (*cf.* Kyoto) and, finally, to some extent, judicial methods of reviewing state conduct.

7) An information accumulation function. Reporting is important for the creation of an over-all picture of, first, how a particular treaty functions,[690] and, secondly, the general environmental behaviour of a state. But unless taken very seriously by states, and probably not even then, it is unclear whether reporting can cover all aspects of environmental information. Therefore data from independent technical monitoring needs to be widely included, and, equally important, made widely accessible. All in all, national reports accumulate massive amounts of information on the state of the environment and on state actions in relation to the environment. Seen simply as that, information, the function is definitely there, even considering that much of the information piled up may be of pitiful quality. The function of simple gathering of information need not be frowned upon; it may have important roles to play on the national level where data is collected, analysed, compiled and debated, but its further utility as a tool of international environmental protection is obviously dependent on further activity. To the extent that report contents are increasingly being made publicly available, especially on the internet, the information accumulation function may also become a "public dissemination function". This development, which is clearly taking place,[691] is very significant as evidence of some new, although still limited, trend towards greater transparency, or even a "culture of openness" in those instances where outside comments are welcomed.[692]

8) A modest sanctionary or repressive function. At least in theory, reports may entail the loss of credibility for a state, and pressure from both the review organ and international opinion may follow. Indeed, most treaty bodies have some, albeit very limited, possibilities to put pressure on the reporting state, particularly in any hearing-situations, and such mild pressuring is one of the main rationales for the reporting schemes. Just as in human rights, environmental reporting procedures are criticized for the problems that governments have

---

[690] *Cf.* Alston's "evaluation function" and "information exchange function": on the basis of information received, supervisory organs can elaborate general comments on human rights situations.

[691] The prime example is offered by the FCCC at http://unfccc.int/resource/natcom/index.html. See also other sites, as indicated *supra.*

[692] *Cf.* to human rights where Fischer already in 1984 wrote that, "[t]he refusal of governments to provide domestic or international NGOs with reports might, in itself, constitute grounds for questioning the government's good faith in human rights matters", Fischer, D.D., 1984, p. 179.

in giving information on their own activities and the inherent risk of lack of objectivity. This "sanction" function is thus largely dependent on NGOs re-processing or using the information from national reports to create media coverage and attract negative attention.[693] In the absence of outside scrutiny, the idea is lost and the function either minimal or non-existing.

In contrast, it is clear that the role of the reporting procedures found under those marine pollution treaties that contain enforcement mechanisms is different from the role of reporting under the majority of environmental treaties. Under the MARPOL Convention, violations of the Convention are punishable either by the party under whose jurisdiction the violation occurred or by the flag state. Also, the inspection system gives the authority carrying out a ship inspection the possibility to detain the ship until it satisfies required conditions. The self-assessment that country reports are based on is not as strong a method of supervision as the certification and inspection system is. Interestingly, the IMO web-pages say that "[i]t is generally recognized that the effectiveness of international conventions depends upon the degree to which they are obeyed and this in turn depends largely upon the extent to which they are enforced. The 1978 Protocol to MARPOL therefore introduced stricter regulations for the survey and certification of ships."[694] The role of e.g. MARPOL reports could thus not be as accentuated as under most treaties' NCP procedures where reports are the only means of acquiring information or where other supervisory mechanisms exist, but may never be resorted to in practice.

9) A legislative function. Besides institutional functions, reports may also play some role in the creation of new or amended norms under a treaty in that they add to the various kinds of understanding of an environmental problem that are needed in order to make changes to or tighten treaty goals, for instance, emission standards or technical requirements.[695] Some

---

[693] *Cf.* Alston's "public scrutiny function" in human rights reporting.

[694] See www.imo.org/imo/convent/pollute.htm under section dealing with the MARPOL (in October 2001).

[695] See Sand's argument, 1999, pp. 341-343, on the practice in environmental matters of flexible standard adjusting institutions, e.g. through technical amendments, reinterpretation, exemptions, escape clauses, loop-holes, and expert advice. *Cf.* Bodansky's "legislative function", which he argues contributes to scientific understanding (referring to national inventories of greenhouse gas emissions, which although correct, is problematic as evidence because it represents an unusual kind of clear, science based assessment seldom seen under other environmental treaties) and to assessments of progress of states under treaties, and that these form a "factual basis for decision about whether to develop new or amended norms", 2000, p. 367.

environmental treaties have "flexible" procedures for norm-amendment, where especially technical standards may be changed through less than full state consent. Under those treaties where some expert/scientist advice is taken in relation to state reports, the role of "expertise" for further norm-creation remains an issue open to questions about the nature of initial state commitments under the treaty and even to the legitimacy of the treaty.[696]

10) A dispute-avoidance function. This aspect appears to have modest potential in environmental questions that are truly international in character, whereas, in contrast, in the human rights field it is less likely that inter-state disputes arise.[697] The more "political" nature of environmental cooperation, as opposed to the more "legalistic" international human rights protection,[698] could be an argument for the reasons why such softer methods of dispute-avoidance or early settlement are preferred in environmental cooperation. This is, however, a highly speculative theme, where "proving" (in any remotely scientific sense of the word) that a certain reporting procedure has actually meant avoiding a larger conflict is akin to the earlier acknowledged problem of proving cause and effect in compliance enhancement.

In the end, the dialogue function and the information accumulation function, rather than the compliance and repressive functions, seem to stand out as the more accurate descriptions of the role of environmental reports. The question whether environmental reporting predominantly functions in a preventive or in a repressive way cannot find an answer on such a traditional scale. Firstly, reports are normally after-the-fact measures; they tell their audience something about measures already taken rather than future plans. They may have some non-compliance preventive role, and through that, at best, some modest role in the prevention of environmental degradation, but probably never any really precautionary role.

---

[696] See Sand, P.H., 1999, p. 345: "If treaty standards can be modified without formal amendment, governments cannot be sure of the treaty obligations they assume at the moment of signature and ratification – what is effective compliance today may be either irrelevant or non-compliance tomorrow" and "liberal use of devices to facilitate compliance (such as exemptions and escape clauses) tends to undermine the credibility – and even jeopardize the legitimacy – of a treaty regime, as illustrated by the history of catch quotas and 'scientific permits' under the International Whaling Convention and of ivory trade quotas under the CITES"; On the other hand Sand does not see evidence of outright technocratic tendencies in environmental regimes; *Cf.* on expert and scientists' power in EC environmental law, de Sadeleer, N., 2001, p. 132.

[697] Adede, A, 1995.

[698] For a discussion on these characteristics, see Bodansky, D., 2000, p. 364.

Herein lies the necessary distinction between substance and procedure: usually only clear norms can be successfully supervised, except when procedure slowly leads the way into substance. In the first instance, reports only "reconfirm" the legal obligation itself, it is "only" supervision, and its role dependent on the primary norm, rather than independent. In the second instance, best seen in a few framework conventions, reporting and other procedures could have some independent, instrumental role on the way to stronger norms, and this way of developing international environmental law then has a longer-term role for the prevention of environmental degradation. On the other hand, according to some writers, environmental reports serve a "legislative function" in that they contribute "to the factual basis for decisions about whether to develop new or amended norms",[699] and such amendments sometimes happen in flexible expert or scientist led procedures without full state consent. This classical dilemma on the making of and on the quality of the primary norms is addressed further below in Chapter 4.

Secondly, reporting procedures are at most very mildly repressive; they could offer only "soft punishment" in the sense of public shame through bad publicity.[700] Clearly, states prefer that compared to the risks of resorting to state responsibility. But this development towards softer responsibility, of which reporting systems are central elements, is not unproblematic only because it is popular. Where Chayes and Chayes see the role of review and assessment, including some reporting, as a way of resolving differences about the "content and applicability" of the governing norms, Koskenniemi to the contrary argues that methods building on transparency create "soft responsibility" which could even undermine the legally-binding nature of the obligations they have looked to fulfil in the first place.[701]

***

[699] By allowing an assessment of state progress and through scientific knowledge. Bodansky argues that reports contribute to scientific understanding of a problem, which is a proposition with limitations, since reports at best refer to scientific finding but have little to do with the actual scientific research or formulation of results: see Bodansky, D., 2000, p. 367; *Cf.* Sand, P.H., 1999, see *supra.*

[700] On the role of reputation for states, see Henkin, L., 1979, p. 52; and further on shame and disgrace in relation to compliance with international norms, see Young, O.R., 1991, esp. p. 176.

[701] Koskenniemi, M., 1992, pp. 127-128; And see Knox, J.H., 2001, p. 24, n. 70

3.4. Information in Perspective 2:
Africa and the Waste Trade: Substance over Procedure?

I. Introduction

An in-depth study is required to illustrate how the legal basis for second phase-information exchange in the context of a particular treaty system may have developed. The area chosen for closer examination is that of international trade in hazardous wastes. Waste trade gained international legal interest in the mid-1980s, and it seems to represent an area of international law where procedural norms on information have been instrumental to the development of the whole area. Procedural duties were followed by substantive bans. By taking an African perspective[702] to the problem it also seems to cut across many social and political problems that make the topic anything but one-dimensional. The approach is based on the proposition that although both individual countries and international treaties may successfully ban waste trade to Africa, the compliance of states still needs to be supervised and illegal trade monitored. Also, as long as some importing African states and some waste-producing states, notably the United States,[703] remain outside treaty systems or without relevant national legislation, the availability of (international) procedural norms on different types of information exchange which encourage transparency and explicit consent remain instrumental to the safe conduct of hazardous transfers. State practice in the form of national legislation, international treaties and subsequent traces of evolving customary international law are examined, firstly, in order to outline the legal strains involved, and secondly, to gain a chronological and geographical-political outline of the legal evolution from procedure to substance.[704]

---

[702] On Africa and sustainable development, see esp. Johannesburg Plan of Implementation, Section VIII, September 2002.

[703] See Grout, D.Z., 1999, pp. 19-25; and esp. Choksi, S., 2001.

As the ugly evidence of modern consumption - hazardous waste - piles up in the backyards of the industrialized world, the economically attractive short-term solution for many countries still is to sell the problem. The international trade in hazardous waste is good business.[705] Meanwhile, the environment and the people of countries least prepared to deal with toxic waste are the ones who bear the social cost. Discussions on the development of the law relating to international waste trade are by necessity part of a larger debate on poverty,[706] and in the particular case of trade to or in Africa, on North-South relations, but they may also contain human rights aspects, notably those related to the human rights to life and health.[707]

Reacting against the relocation of environmental hazards from the industrialized world to the developing states, several African states in the late 1980s and early 1990s completely banned the import of hazardous wastes into their territories.[708] More specifically, they were

---

[704] In this study, trade, transport, and transfer are all used to denote parts of the entire process of transboundary handling of waste. Waste management is understood to be one specific form of hazard management (see above Ch. 3.1.). Hazardous and toxic are terms used interchangeably and they are both based on the very basic presumption that to a larger extent than "mere" waste they denote a higher risk of adverse impact on the natural environment in cases where something goes askew. Nuclear wastes are understood to be a category of wastes distinct from other high-risk wastes.

[705] For a bibliography of sources on trade in toxic waste, see http://egj.lib.uidaho.edu/egj02/lewis01.html; Wynne, B., 1989, p. 120; Peter, C.M., 1990, p. 64. See *idem* pp. 65-68 for examples of official toxic waste agreements with African states (Guinea Bissau, Benin, Equatorial Guinea and the Congo) and of illegal agreements between private individuals and foreign exporting firms. See MacKenzie, D. and Mpinga, J., 1988, pp. 30-31, for numerous examples of waste arrangements between African countries and exporting companies; Pambou Tchivounda, G., 1988, p. 709; and see further Kitt, J., 1995, p. 485-489; Choksi, S., 2001, pp. 512-515.

[706] In the last two decades, see e.g., the seminal Founex Report, reprinted in Annex I U.N. Doc. A/CONF.48/10, 22 Dec. 1971, esp. Ch. A, para. 2-4; and further on environment and development see Sinjela, A.M., 1984; Handl, G., 1988, p. 607; Conable, B.B., 1990; Beckerman, W., 1992, pp. 481-496; Pallemaerts, M., 1993, e.g., p. 16; Okonmah, P.D., 1997, p. 60; *The Economist*, Special Survey on 'Development and Environment', 21.3.1998.

[707] See Resolution of 26.4.2000 by the UN Commission on Human Rights on dumping of toxic and dangerous wastes where the Commission categorically condemns dumping in developing countries, which adversely affects the human rights to life and health of individuals in those countries. See also work of the Special Rapporteur of the Commission on Human Rights on the adverse effects of the illicit movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights, at website of the UN High Commissioner for Human Rights, http://www.unhchr.ch/. And on the development of this issue within the Commission on Human Rights, and on the role of law, especially international law, for the prevention of exports of hazardous wastes, see Tomasevski, K., 1995, pp. 264-265. Generally on waste and environmental justice in developing countries, Lipman, Z., 1998.

[708] On the concept of "pollution havens", see Pearson, Ch., 1987. See also Rose, E., 1989, pp. 223-244; Vu, Hao-Nhien Q., 1994; Park, R.S., 1998; and further see Ranjan, S., 2001, p. 44; Generally on hazardous waste management at the global level, see O'Neill, K., 1998, pp. 138-163;

also reactions to such incidents as the dumping in 1988 of Italian toxic and nuclear wastes in Koko, Nigeria. The Koko catastrophe ultimately led to the reshipment of the hazardous waste back to Italy.[709] In the same year, Nigeria experienced another threat when more toxic waste was shipped from Italy on the container ship "Karin B". In this case as well, the waste was repatriated to Italy.[710] These early incidents led to raised public awareness not only in Nigeria but throughout Africa and internationally.

On a constitutional level, the 1990 Constitution of Namibia provides for a rather progressive environmental provision, which mentions, *inter alia*, that "in particular, the Government shall provide measures against the dumping or recycling of foreign nuclear and toxic waste on Namibian territory".[711] And on a statutory level many countries,[712] among those several African states, have legislated against the import of toxic waste.[713] For example, the 1988 Environmental Protection Act of the Gambia makes dumping or attempting to dump any waste produced from sources outside the Gambia a criminal offence, both for private persons and corporate bodies, and it imposes penalties for such illegal conduct.[714] Likewise, the 1988 Law on Toxic and Nuclear Waste of the Ivory Coast forbids any trade, import, transit, transportation, deposit and storing of toxic or nuclear industrial waste and noxious substances on its territory.[715] In Nigeria, the 1988 Decree on Harmful Waste criminalizes purchase, sale, importation, transit, transportation, deposit and storage of harmful wastes.[716] The penalties prescribed under the Nigerian Decree are unusually severe: they include life sentences and forfeiture of vehicles and land used for

---

[709] See Ikhariale, M., 1989; See also Guobadia, A., 1993, p. 1.

[710] See Handl, G. and R.E. Lutz, 'An International...', 1989, p. 360, n. 32.

[711] Constitution of Namibia, 1990, Chapter II, Article 95(L).

[712] Over 100 countries have national bans or some import restricting legislation, see Puckett, J., 1997, p. 9.

[713] In Tanzania a waste disposal task force was formed in 1988 under the National Environment Management Council with a view to gathering experts and administrators to work towards the prevention of imports of hazardous and nuclear wastes into Tanzania. See Peter, C.M., 1990 p.74.

[714] Environmental Protection Act, No. 15 of 1988, Sections 5, 6, 7, 8, 9. 29 I.L.M. 208 (1990). Also reprinted in 1(3) RADIC 1989, pp. 511-512. Similar provisions are found in the 1988 Environmental Code of Togo.

[715] Law on Toxic and Nuclear Waste, No. 88-651 of 1988, Article 1. *Journal Officiel* 7.7.1988, pp. 258-259. Also reprinted in 1(3) RADIC 1989, pp. 511-512.

[716] Harmful Waste (Special Criminal Provisions, etc.) Decree, No. 42 of 25.11 1988, Section 1. *Supplement to Official Gazette Extraordinary*, No. 79, vol. 75, p. A 779.

such criminal activity. The equivalent legislation in Cameroon is even more severe: it imposes death penalties for illegal introduction of toxic or dangerous waste.[717]

The complete import bans in many African countries gave rise to a debate in India, that it was becoming the new target of hazardous waste dumping, and that all imports should be banned. At the same time, however, its industry voiced the need for inexpensive raw materials and thus, free trade.[718] The Indian legislative response, which has developed especially because of active NGOs, public interest litigation and an active judiciary,[719] is not a total ban in that the 1989 Hazardous Wastes Rules, which were amended in 2000, allow for import, and now also export, of hazardous wastes as raw materials for recycling or reuse. The Hazardous Waste Rules base such imports and exports on a prior informed consent (PIC) procedure, and make, since the amendment, all activities subject to the rules of the Basel Convention (discussed below). Allowable import is subject to a case-by-case examination on merit by the State Pollution Control Board, and authorization by the Union Ministry of Environment and Forests, a procedure that includes the fulfilment of procedural obligations of prior notification and subsequent further information.[720] Thus the Indian experience is one that aims at reconciling the conflicting interests - so readily recognizable through the example of trade in hazardous wastes - of environmental protection and economic development.

---

[717] Section 6. On a national level, the discharge of hazardous substances into Nigerian territory or waters is also prohibited, but subject to authorized exceptions. The 1988 Federal Environmental Protection Agency Decree (No. 58 of 30.12.1988, *Official Gazette*, p. A 909) prescribes for procedural rules in emergency situations, and further gives the responsible Minister wide powers to prescribe, *inter alia*, additional notice and reporting requirements. See further, Guobadia, A., 1993. For details on environmental legislation in Nigeria before the Koko incident, see pp. 75-76, Ikhariale, M., 1989. For Cameroon, see Art 4, la Loi No. 89/027 (portant sur les déchets toxiques et dangereux) "est punie de la peine de mort, toute personne non autorisée qui procède a l'introduction, à la production, au stockage, à la détention, au transport, au transit ou au déversement sur le territoire camerounais des déchets toxiques et/ou dangereux sous toutes leurs formes."

[718] Ranjan, S., 2001, p. 45.

[719] See e.g. Ramakrishna, K., 1985; Baxi, U., 1987; Craig, P.P. & S.L. Deshpande, 1989; Desai, B., 1993; Anderson, M., 1996; Ranjan, S., 2001, pp. 74-75 and see p. 94.

[720] Hazardous Wastes Management and Handling Rules, 1989, Art. 11; Amended 6.1.2000; See also Environmental Protection Act, No. 29 of 23.5.1986; the Public Liability Insurance Act, No. 6 of 1991; and the National Environment Tribunal Act, No. 27 of 1995; But India is not yet party to the Ban Amendment, discussed below, see Ranjan, S., 2001, pp. 76-83.

While many African countries unilaterally banned imports from outside the continent, developed waste-generating countries legislated on relatively precise procedural rules. For example, the Nordic countries passed legislation also on the trade aspect of waste management. The Norwegian, Swedish and Finnish provisions respectively required the prior notification to national authorities of any planned export of hazardous wastes. Swedish legislation expressly required notification to the importing state, the other two referred to international law. Export was subject to permission by national authorities and consent of the importing state and transit states. The Swedish Decree most explicitly defined and enumerated the terms of permissibility for export.[721]

In the United States, the 1984 Hazardous and Solid Waste Act amended previous legislation by requiring the prior notification to and consent of any country importing hazardous wastes.[722] This was a substantial improvement of previous rules, which simply required prior notification of a proposed shipment, including only very few details and no consent requirement.[723] The Council of the European Community reached agreement in 1984 on a Directive on Transfrontier Movements of Hazardous Waste, [724] requiring prior notification of any transfers.[725] An amendment in 1986 added the requirement of prior (informed) consent and broadened the scope of these obligations to include non-member states as well.[726] A considerably stronger step still was taken in 1993 when the Council

---

[721] For Norway see: Regulations Concerning Export and Import of Hazardous Wastes, 23.5 1990 (Forskrift om eksport og import av farlig avfall); for Sweden see: Decree on Export and Import of Hazardous Wastes, 25.6 1992 (Förordning om export och import av farligt avfall m.m.); for Finland see: Waste Management Act 31.8 1978/673 - 20.12 1991/1655 and Waste Management Decree, 16.3 1979/307 - 16.4 1987/425 (Jätehuoltolaki and Jätehuoltoasetus).

[722] 42 USC, Section 6938 (1984). The Act amended the Federal Resource Conservation and Recovery Act (RCRA). See also the Superfund or Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), 42 USC Section 9601; and the Superfund Amendments and Reauthorization Act of 1986 (SARA).

[723] See further Scherr, J.S. 1987, pp. 138-139. For criticism of U.S. legislation, see Park, R.S., 1989; and see Choksi, S., 2001; Further on questions relating to U.S. joining of the Basel Convention and legislation that would be needed to do so, see Grout, D.Z., 1999, pp. 19-25.

[724] EC Council Directive of 6 Dec., 1984 on the Supervision and Control within the European Community of the Transfrontier Shipment of Hazardous Wastes, 84/631/EEC, OJ No. L 326/31.

[725] For a comparison between the U.S. and EC's respective internal regimes for trade in hazardous wastes, Levis, L., 1998.

passed a Regulation on the Supervision and Control of Shipments of Waste within, into, and out of the European Community.[727] Under Article 18 of the Regulations all exports of waste to African, Caribbean and Pacific (ACP) states were prohibited. The only exception to this ban was the possibility to return processed waste back to an ACP state that had sent waste to an EC state for processing.[728]

II. International developments - substantive

The notion "green imperialism" is a criticism of Western conditionality on development aid and investment. The waste trade brought environmental concerns to the attention of many African states, not least in the discourse on new forms of outside dominance.[729] But the waste trade is also an issue of the pragmatism born out of need for foreign trade and investment. Far from all African states have legislated against waste imports in all its forms. Yet both among those who have banned imports and those who have not, there is a growing tendency to acknowledge that the income from recycling (rather than disposal of) "less" hazardous waste or "secondary raw materials" is much needed in weak economies.[730] For several decades now, greed among corrupt authorities and official denials[731] of shipments that have taken place continue to add to the need to deal with the problems beyond the realm of national discretion. Here multinational enterprises (MNEs) are major actors, and the very nature of their ownership, economic strength, and relative negotiating power are factors that "internationalize" the legal interests involved. One of the latest cases

---

[726] EC Council Directive of 12 June, 1986, 86/279/EEC, OJ No. L 181/13. In order to implement these EC directives, the United Kingdom passed the Transfrontier Shipment of Hazardous Waste Regulations in 1988, SI 1988, No. 1562.

[727] EC Council Regulation of 1 Feb., 1993 on the Supervision and Control of Shipments of Waste within, into and out of the European Community, 259/93, OJ No. L 30/1.

[728] See also below on the Lomé Convention.

[729] Park, R.S., 1998, writes about waste trade as a form of international "environmental racism"; Peter, C.M., 1990, p. 64, refers to a "new form of slavery", "colonialism" and "poison-tourism". Cock and Koch mention "toxic colonialism" and "garbage imperialism", 1991, p. 173. See generally on awareness of the problem in the Third World in the 1980s before the larger debate on sustainable development: Dembo, D. *et al.* eds., 1988. See also Pambou Tchivounda, G. 1988, p. 710; On "environmental justice" in developing countries, see Lipman, Z., 1998; But see Ranjan, S., 2001, p. 44, who "merely" claims that "[t]ransboundary movements of hazardous wastes from industrialized countries to developing countries constitute transfer of pollution".

[730] See e.g. Ranjan, S., 2001, p. 45.

[731] See MacKenzie, D. and J. Mpinga, 1988, p. 31; and see Choksi, S., 2001, p. 514, n. 24.

of intentional efforts to bring hazardous waste into Africa is from September 2000: a much-criticized authorization by South Africa for the import of mining waste from Australia.[732] According to Handl and Lutz, the development status of recipients of hazardous transfers, as well as the potential long-term harm to those countries, equally bring the issue to the international level.[733]

At the international level, quite contrasting substantive approaches were first adopted by industrialized waste exporting states and importing developing countries in Africa. Apart from bilateral arrangements between the United States and Canada and the United States and Mexico,[734] the first multilateral efforts in the area were taken by the UNEP, which in 1987 adopted its Cairo Guidelines and Principles for the Environmentally Sound Management of Hazardous Wastes.[735] The Guidelines, which by their very nature form a non-binding document, nevertheless started the process that led to the adoption in 1989 by many waste exporting states of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal.[736]

The Basel Convention adopted a regulatory rather than prohibitive approach to the international waste trade, whilst still providing for a minimum international standard for the purposes of classification of wastes to be controlled,[737] and the criminalization of illegal

---

[732] See e.g. www.ban.org or http://allafrica.com/stories.

[733] Handl, G. and R.E. Lutz, 'The Transboundary...' 1989, pp. 42-43; See also Handl, G., 1987-88, p. 611; And generally see O'Neill, K., 1998, pp. 138-163.

[734] Agreement between the Government of Canada and the Government of the United States of America Concerning the Transboundary Movement of Hazardous Waste, Ottawa, 28.10.1986, in force 8.11.1986; and Agreement of Cooperation between the United States of America and the United Mexican States Regarding the Transboundary Shipments of Hazardous Wastes and Hazardous Substances, Washington 11.11.1986, in force.

[735] Cairo Guidelines and Principles of Environmentally Sound Management of Hazardous Wastes, 1987, UNEP/GC 14/30 (1987).

[736] Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Basel 22.3.1989, in force 24.5.1992. The Basel Convention has been ratified by most European states and Canada as well as by many Latin American, Asian and African states. As of 9.4.2002, the Convention has 149 ratifications. For appraisals of the Convention, see Handl, G., 'The 1989 Basel Convention...', 1989; Kummer, K., 1992, pp. 530-562; and Kummer, K, 1995.

[737] Art. 1(1)(a). There is no "black list" banning certain substances, but rather all substances are tradable as long as they are controlled.

traffic in wastes.[738] The main environmentalist critique of the Basel Convention was, and still is, that the regulatory approach to waste trade does not sufficiently encourage solving the problem at its source, that is, in the country where it has been produced, and that the expertise and technology needed to manage the waste often does not exist in the less developed importing countries.[739] Another critique is that every transfer or stage in the transportation of potentially hazardous waste means one more risk of harm to people and the environment. Similar criticism of the legitimizing of waste trade can be directed towards policy declarations made earlier by the Organization for Economic Co-operation and Development (OECD)[740] and towards agreements made by individual industrialized states.[741] On the other hand, champions of continued opportunities for transboundary trade in hazardous wastes claim that it can "reduce disposal costs, decrease risks associated with hazardous waste management and disposal, and supply resources for receiving countries".[742]

Two months after the signing of the Basel Convention, the Organization of African Unity (OAU)[743] reacted by adopting its Resolution on Dumping of Nuclear and Industrial Waste in Africa.[744] The Resolution declared the dumping of nuclear and industrial wastes in Africa a crime against Africa and the African people. It also called upon member states to put an end to transactions that are already agreed to, and to otherwise adhere to the Cairo guidelines. As the next step, the 1989 Fourth Lomé Convention between ACP states and the EC committed the EC countries to prohibit all direct or indirect export of radioactive or

---

[738] Articles 4(3), 4(4) and 9(5).

[739] See MacKenzie, D. and J. Mpinga, 1988, pp. 30-31; Wynne, B., 1989, pp. 122-124; Choksi, S., 2001, p. 525.

[740] See OECD Council Recommendation C(76) 155; Decision and Recommendation C(83) 180; Resolution C(85) 100; Decision and Recommendation C(86) 64; Decision C(88) 90; Resolution C(89) 112; Decision C(90) 178; Decision C(92) 39.

[741] See especially Canada-United States and United States-Mexico agreements referred to above. For a thorough list of legal instruments of the EU and the OECD and a list of international treaties and other legal instruments in the area, see Kummer, K., 1995, pp. xxvii-xxxvii.

[742] For arguments in favour of continued hazardous waste trade, see Waugh, T., 2000.

[743] On law-making in the OAU, see generally Maluwa, T., 2000, pp. 201-225; And look at http://oau-oua.org.

[744] OAU Council of Ministers, Resolution on Dumping of Nuclear and Industrial Waste in Africa, 23.5 1989, Res. 1153. Reprinted in 28 ILM (1989), p. 567; 2(1) RADIC (1990), p. 145. For an appraisal, see Mahalu, C.R., 1990, pp. 61-71. See also Pambou Tchivounda, G., 1988, p. 710 *et. seq.*

hazardous waste to the ACP countries, while simultaneously the ACP states were committed to prohibit the import of such wastes.[745] As already mentioned, the EC in 1993 changed its legislation to correspond to the Lomé Convention. Clearly, this was a development in the right direction from the point of view of the participating African states.

Despite these actions and national import bans in many African countries, concerted action was felt to be a necessity. Thus, a regional waste import-banning scheme was elaborated under the auspices of the OAU in 1991 in Bamako leading to the African Convention on Transboundary Movements of Hazardous Wastes.[746] According to Article 4(1), the import into Africa from non-contracting parties of any hazardous wastes is deemed illegal and criminal. The Convention was largely a regional reaction against the lenient attitude adopted in the Basel Convention,[747] and it followed the - self-evident - recognition in the Basel Convention and by OECD states of the sovereign right of individual states or regional groups of states to adopt bans against the entry or disposal of foreign hazardous wastes and other wastes in their territories.[748] In Article 11, the Basel Convention recognizes that parties may enter into bilateral, multilateral and regional agreements on transboundary movements of hazardous wastes so long as they provide for the environmentally sound management of wastes. Several consequent agreements refer to this provision, which, together with Principle 14 of the Rio Declaration,[749] may have inspired some regional arrangements.[750] Such earlier regional agreements are not necessarily

---

[745] Fourth ACP-EC Convention of Lomé, 15.12 1989, in force 1.9 1991; See Article 39; See generally Lipman, Z., 1998; See also Fifth ACP-EC Convention, Cotonou, 23.6 2000, not in force, Articles 32(d), 49, COM(2000)324 final.

[746] Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes Within Africa, Bamako 29.1.1991, in force 22.4.1998; see http://www.oau-oua.org; and generally see the Fridtjof Nansen Institute's Yearbook of International Co-operation on Environment and Development, http://www.greenyearbook.org/agree/haz-sub/bamako.htm; Further on the Convention after its first MOP, see Eguh, E.C., 1998, pp. 256-263.

[747] See esp. Gudofsky, J.L., 1998, p. 246.

[748] Bamako Convention Article 4(1); See the Preambles to the Basel Convention and OECD Decision C(83) 180.

[749] States "should effectively cooperate to discourage or prevent the relocation and transfer to other States of any activities or substances that cause severe environmental degradation or are found to be harmful to human health".

[750] See e.g. OECD Decision C(92) 39, Preamble; Central American Regional Agreement on the Transboundary Movement of Hazardous Wastes, Panama City, 11.12.1992; Preamble, Austrian-German Agreement, Vienna, 12.1.1993 and Bonn 16.2.1993.

further-reaching than the Basel Convention itself was at the time, but they may, as in the case of the Central American Regional Agreement, provide for import bans from states not parties to the agreement.

The debate arising from the strong reaction among African and also other developing countries against the managerial rather than prohibitive approach in the Basel Convention led to pressures to amend the Convention.[751] The second Conference of the Parties (COP 2) in 1994 took decision II/2 immediately banning the export of hazardous wastes from OECD or EC countries (or Liechtenstein) to non-OECD or non-EC countries for final disposal, and phasing out, by the end of 1997, wastes intended for recovery or recycling.[752] As the binding character of the Decision had been questioned by some countries, this radical change to the Basel Convention became clearly legally-binding with the amendment of the Convention by adding new Article 4A at COP 3 in 1995.[753] The new article prohibits waste exports for final disposal or recycling from so-called Annex VII states to states not listed in the Annex.[754] Thus, when the amendment enters into force export will still be legal between Annex VII states or between states parties that are not listed. By leaving out the OECD and EC criterion and instead only mentioning the Annex VII list, countries may later join the Annex rather than the OECD, and reap the benefits of intra-list trade.[755] Likewise, the Bamako Convention leaves the door open for exporting waste, that is, to conduct trade in hazardous waste between the contracting parties.

---

[751] For a detailed account of the amendment process see Krueger, J., 1999, pp. 31-37.

[752] Further on shipments of hazardous wastes for recycling and recovery, see Gudofsky, J., 1998.

[753] Further see Lavranos, N., 2002, p. 46.

[754] 3rd Conference of the Parties, Amendment to the Basel Convention, Decision III/1, Geneva, 22.9.1995, not in force; involves Annex VII countries (OECD, EC and Liechtenstein); movements under Annex IVA (final disposal) were prohibited and movements under Annex IVB (recovery, recycling or reuse) were to be phased out by 31.12.1997 and prohibited as of that date. The original target dates have not been met.

[755] In response to some new applications to join Annex VII, COP-4 in 1998, by Decision IV/8, decided that no new members would be accepted to Annex VII until the Ban Amendment enters into force. The Ban Amendment has 28 ratifications as of January 2002, and it needs 62 to enter into force; Several African states joined the Basel Convention after the adoption of the Ban Amendment, look under www.basel.int; Further on the trade implications of the Ban Amendment, see Wirth, D., 1998, pp. 237-248

By way of an example of a regional legal development expressly taking the situation of developing countries into consideration, the 1996 Mediterranean Hazardous Wastes Protocol under the Barcelona Convention[756] is parallel to the Ban Amendment in that it, on the one hand, states that Parties shall "prohibit the export and transit of hazardous wastes to developing countries, and Parties which are not Member States of the European Community shall prohibit all imports and transit of hazardous wastes". On the other hand, the Protocol leaves the possibility that transboundary movements can be allowed if a Mediterranean developing country does not have the technical capabilities nor the disposal facilities needed and instead a state of import can ensure that the waste is disposed of in an environmentally sound manner. Such transfer is then managed through a number of procedural safeguards very much like the ones present in the Basel and Bamako Conventions to be discussed below.

Since the adoption of the Ban Amendment, the main controversial issue within the Basel Convention has been the distinction between final disposal and recovery, recycling or reuse. While the ban on final disposal was relatively easily digested by the parties, many still liked to profit from exporting or importing wastes meant to be recycled.[757] In order to enter into force, the Ban amendment must be ratified by two-thirds (63 parties) of the parties participating in COP 3. As of spring 2001, the number of ratifications is only a handful, with most parties still uncertain. By adding two new lists, A and B, of substances to the Convention, clarity was brought by COP 4 in 1998 to the issue of which classifications of wastes are covered by the ban: List A substances cannot be transported to developing countries, whereas List B substances are open to trade as recyclables even to non-OECD states.[758] As the lists develop and the rules of the game are clearer for

---

[756] Protocol on the Prevention of Pollution of the Mediterranean Sea by Transboundary Movements of Hazardous Wastes and their Disposal, Izmir, 1.10.1996, not in force; Under the Kuwait Regional Convention for Co-operation on the Protection of the Marine Environment from Pollution, 24.4.1978, in force 1.7.1979, see also the Protocol on the Control of Marine Transboundary Movements and Disposal of Hazardous Wastes, 1998; and *cf.* Convention to Ban the Importation into Forum Island Countries of Hazardous and Radioactive Wastes and to Control the Transboundary Movement and Management of Hazardous Wastes within the South Pacific Region, Waigani, 16.9.1995, in force 21.10.2001.

[757] Despite their initially strong support for the ban some developing states soon questioned whether they could afford the loss of income when recycling of wastes that were considered potential "secondary raw materials" became prohibited, see Krueger, J., 1999, p. 95, n. 37.

[758] Further on this development see Choksi, S., 2001, p. 520-521.

(exporting) industry and states alike, the decision whether or not to ratify the amendment should become easier to make.

On the substantive level the inter-African export and management scheme offers at least seemingly strong safeguards for the prevention of pollution.[759] Firstly, each contracting party is obliged to prevent the export of hazardous waste to states which have prohibited all such imports or if the waste is likely not to be handled in an environmentally sound manner by the presumptive importing country.[760] In addition it requires precautionary measures, such as the promotion of clean production methods applicable to entire product life cycles.[761] The requirement of environmentally sound management is central to the Basel scheme as well, but it does not pursue the precautionary approach quite as far as the Bamako Convention, which embodies a strict understanding of precaution.[762] The concept of environmentally sound management is not clearly defined in either Convention, and according to Birnie and Boyle the obligation is "no more than a reformulation of the standard of due diligence" normally used to describe international environmental obligations.[763] In the Basel Declaration on Environmentally Sound Management, the Basel Convention parties attempt to put some flesh on the bones of the concept, *inter alia,* by underlining the importance of the exchange of information on experiences gained in the area.[764] However elusive the obligation of environmentally sound management may be, the Basel Convention places the obligation on importing states as well, thus requiring them to share the responsibility of preventing pollution of the - global - environment.[765]

---

[759] Further on the Bamako Convention and implementation strategies after the first MOP, see Eguh, E.C., 1998, pp. 256-263.

[760] Article 3(i-k).

[761] Article 3(f)(g).

[762] Further on the relatively strict understanding of precaution in the Bamako Convention, see Katz, D., 2001, pp. 957-958.

[763] Birnie and Boyle, 1992, p. 339. Interestingly enough, as regards trade between the Basel Convention Parties, the requirement of environmentally sound management receives some clarification by reference in the above-mentioned Swedish legislation to national health and environmental considerations as the minimum requirement for the foreign management of wastes originating in Sweden. As for trade between non-Parties, bilateral or multilateral agreement must exist with Sweden, and the Basel Convention criteria for permissibility are the minimum requirement.

[764] Adopted at COP 5 in 1999, see www.basel.int/COP5/ministerfinal; and see UNCED: Agenda 21, chapter 20 for its elaboration of the concept of environmentally sound management.

Another substantive strength found in both Conventions is the duty of the exporting state to assure that the exporter re-imports wastes that, despite fulfilling obligations set out under the Conventions, "cannot be completed in accordance with the terms of the contract".[766] The duty to re-import *illegally* exported wastes, on the other hand, shows some differences between the two Conventions. In cases where the illegal action is due to conduct on the part of the exporter or generator, the state of export shall ensure that the wastes are taken back by the exporter or generator, or by the state itself. In the Basel Convention, however, the exporter can be relieved from his duties if the re-importing measures are impracticable. The wastes must then be otherwise disposed of in accordance with the provisions of the Convention.[767] If the illegality of the movement of waste results from the conduct of the importer or disposer, the Basel Convention provides for a duty of the state of import to ensure that the wastes are disposed of in an environmentally sound manner by the importer or disposer or, if necessary, by the state itself. In an equivalent situation, the Bamako Convention lays down the duty of the importing state to ensure that the wastes in question are returned to the exporter.[768]

A weakness, on the other hand, is found in the limited practical scope of the wastes covered by the Basel Convention, that is, only household wastes and hazardous wastes, as defined in the Convention's Annexes or by national law.[769] The Bamako Convention includes nuclear wastes[770] and such substances that have been banned, refused registration or voluntarily withdrawn in the country of manufacture for health and environmental reasons, such as various pharmaceuticals.[771] Thus, for the most part, neither system deals with the regulation of substances, such as various industrial chemicals, which are not

---

[765] Article 4(2)(g).

[766] Articles 8 (Basel) and 8 (Bamako).

[767] Articles 9 (Basel) and 9 (Bamako).

[768] Articles 9(3) (Basel) and 9(4) (Bamako).

[769] Article 1.

[770] *Cf.* the IAEA Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, Vienna, 29.9.1997, in force 18.6.2001, relating i.a. to siting (Articles 6, 13) and to public information on safety issues (Preamble), further at http://www.iaea.org.

[771] Article 2(1)(d) and 2(2).

intended for disposal[772] or which are intended for the production of chemical weapons,[773] and neither Convention deals with transboundary trade in hazardous technologies in the sense of installations and factories.[774]

III. Procedures on openness and consent

By necessity any separation of legal norms as either substantive or procedural is somewhat artificial and burdened by overlapping notions. On the substantive side, the options range between complete bans and complete freedom of trade and movement. As seen above, the response has been largely dependent on the importer and exporter status of the states concerned, but many African states have still not taken national or international legislative measures against hazardous wastes. The procedural norms on information exchange and reporting are of importance as long as the Basel amendment to ban exports outside of the EC and OECD is not in force, and thereafter between parties to the treaty regimes, sometimes with extensions of duties towards non-parties as well, and to the extent that customary norms exist, to all transboundary trading and management of wastes.

The Basel and Bamako treaties are examined in a search for the following procedural norms: prior notification of planned movements; prior informed consent; following a movement of waste, accident information; and finally, general information on legislation and annual reporting under the Conventions, including reporting on illegal waste

---

[772] The regulation of trade in chemicals is internationally governed by, *inter alia*, the Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, Rotterdam, 11.10.1998, not in force; For earlier procedures see the non-binding UNEP London Guidelines for the Exchange of Information on Chemicals in International Trade, UN Doc. A/44/25, p. 156 (later amended); UNEP Code of Ethics on the International Trade in Chemicals; and the Food and Agriculture Organization's Code of Conduct on the Distribution and Use of Pesticides, FAO C85/25 – Rev; On these and the International Register of Potentially Toxic Chemicals, see further Gündling, L, 1989, pp. 66-70; See further on earlier procedures in hazardous chemical exports: Scherr, J.S., 1987; Walls, M.P., 1988, pp. 120-146; See further under www.unep.ch.

[773] The Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction, Paris, 14.2.1993, in force 29.4.1997, recognizes the right to develop, produce, otherwise acquire, retain, transfer and use toxic chemicals and their precursors for purposes not prohibited under the Convention, Article VI(1). Generally, see Bothe, M., N. Ronzitti & A. Rosas, eds., 1998.

[774] On such installations generally, see Handl, G. and R.E. Lutz, eds., 1989; and Lutz, R.E., 1988, pp. 629-677.

movements (that is, violations of existing regimes). The treaties represent the "first" and "second phases" of development of environmental information provisions.

III.I. Prior notification

The common rationale for prior notification has been that without knowledge there can be no rational decision-making by countries to prevent harm to their environments. This was recognized by the OECD when it first took up the problem of hazardous waste movements in the mid-1970s. Its approach was to deal with procedural aspects of waste management through the adoption on provisions on notification and consent.[775] These OECD efforts and the Cairo Guidelines' provisions on pre-authorization information[776] are followed up in the Basel and Bamako Conventions alike.

Thus, in situations where trade is conventionally regulated, excluding single states which have unilaterally banned or restricted imports, both Conventions make certain provisions for initial information of proposed transboundary movements of hazardous wastes. Such initial information must be given according to criteria set out in Annexes to the Conventions and must clearly state the "effects" (Basel) or "potential dangers" (Bamako) of the wastes on human health and the environment.[777] The Basel and Bamako Conventions both require that:

> [t]he State of export shall notify, or shall require the generator or exporter to notify, in writing, through the channel of the competent authority of the State of export, the competent authority of the *States* concerned of any proposed transboundary movement of hazardous wastes [or other wastes]. Such notification shall contain the declarations and information specified in Annex IV A of this Convention [in Annex V A], written in a language acceptable to the State of import. (Alternative Basel text in brackets. Emphasis added.)[778]

---

[775] OECD Council Recommendation C(76) 155; Decision and Recommendation C(83) 180; Resolution C(85) 100; Decision and Recommendation C(86) 64; Decision C(88) 90; Resolution C(89) 112; Decision C(90) 178; Decision C(92) 39. See further Bothe, M., 1990, p. 423.

[776] Article 16.

[777] Articles 4(3)(u) Bamako and 4(2)(f) Basel.

[778] Article 6(1) Bamako and 6(1) Basel; See further Winter, G., 1998.

The contents of the information required in the Annexes are essentially the same. For example, names and addresses of exporters and generators of waste, site of disposal, means of transport envisaged, physical descriptions of the waste, packaging envisaged, quantities, method of disposal and a declaration by the generator and exporter that the information is correct. Oral messages do not qualify as notification of proposed waste movements. The notification duty covers information to transit states and importing states alike, and also transit states and importing states that are not parties.[779] The main difference between the Conventions is, however, that the Bamako Convention requires shipment specific notifications even where hazardous wastes having the same physical and chemical characteristics are shipped regularly to the same disposer via the same customs office.[780] The Basel Convention takes a less stringent controlling approach in expressly allowing general notifications for similar and regular shipments to the same disposer via the same customs office during a maximum period of 12 months. This provision may water down the information requirement and serve to legitimise increased movements rather than reductions as otherwise envisaged in the Convention. On the other hand, this so-called Control System has matured over the last few years, and the Secretariat has worked towards making it function properly.[781]

The prior notification requirements have not gone entirely without criticism. Export notifications have, i.a., been referred to as the "liberal compromise".[782] They are not enough of a safeguard against pollution risks if the receiver has no or insufficient expertise or administrative and scientific resources to appraise the consequences of an envisaged shipment. It was therefore early argued that exporting countries ought to be held to a higher standard than simple prior notification.[783] Under the Basel Convention the standard will indeed be raised when exports are banned from EC and OECD states to Parties that do not belong to those groups, but prior notification remains the central instrument for those

---

[779] Articles 6(9), 7 (Bamako) and 6(10), 7 (Basel).

[780] Article 6(6).

[781] But *contra* see Vu, 1994, for an example of a loop-hole in the Convention related to a case of attempted dumping of waste in Somalia in 1992.

[782] See Scherr, J.S., 1987, for a reference at p. 145 to M. Dowie, 1979.

[783] See Handl, G., 1987-88, p. 617.

between whom trade is allowed. Obviously, prior notification does not cover illegal transfers.

III.II. Prior informed consent

In many environmental treaties information provisions are followed by various consultation and negotiation requirements, especially where the activity being regulated has potentially immediate transboundary environmental risks attached to it.[784] Express consent requirements are, although there are some recent examples to the contrary in the areas of trade in hazardous chemicals and pesticides and in biosafety,[785] unusual for common areas or shared resources and even contradicted in judicial practice.[786] In the context of hazardous waste trade or movements, however, it is the territory of one state rather than a shared resource that is potentially affected, and the international scheme is meant to be considerably stronger than usual. Instead of being required to give neighbouring states a mere chance to bring forth their opinions and fears about a certain project (negotiation and consultation), the waste regime is based on the consent of the importing or transit state to acquiesce to the acceptance of a particular shipment. The notion of prior informed consent (PIC) thus includes the requirements discussed above pertaining to prior notification and the consequent reaction from the state receiving such notification. This stress on consensus can of course only be looked upon as an expression of normal and traditional state sovereignty, but in the context of waste movements it arguably also serves the point of

---

[784] See, for example, Article 5 of the Nordic Convention on the Protection of the Environment, Stockholm, 19.2 1974, entry into force 5.10 1976. See also Article IX on consultations and procedure for requesting clarification in the Chemical Weapons Convention.

[785] For an express and well developed PIC procedure, see Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, Rotterdam, 11.10.1998, not in force; See also the "Advance Informed Agreement Procedure" in Articles 7-10 and 12 of the Protocol on Biosafety to the Convention on Biological Diversity, Cartagena, 29.1.2000, not in force. See further www.biodiv.org/biosafe/protocol/

[786] See the Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft, Oslo, 15.2.1972, in force 7.4.1974. The subsequent Oslo Commission Recommendation 89/1 offers an example of the acknowledgement of prior consent to dumping in the North Sea during the time of phasing out dumping. See also the *Lac Lanoux* arbitration, 12 RIAA, 1957, pp. 315-316, for an outright denial of the existence of a rule of prior informed consent for application in the management of a shared resource.

safeguarding environmental interests against perceptions of short-term economic necessity.[787]

In both the Basel and Bamako Conventions the central idea is that the importing Parties shall:

> respond to the notifier in writing consenting to the movement with or without conditions, denying permission for the movement, or requesting additional information. A copy of the final response of the State of import shall be sent to the competent authorities of the States concerned [which are Parties]. (Alternative Basel text in brackets)[788]

Prior informed consent is not understood to be merely a yes/no option, but rather it implies the power of the importer to set such conditions as it finds appropriate for a particular movement.

The same requirements for full consent appear to apply to non-parties: according to both Conventions the required notifications and responses are to be transmitted to such governmental authority as may be appropriate in the case of non-parties.[789] The Conventions make this full consent a prerequisite for the actual commencing of the transboundary movement. Another prerequisite lies in the requirement of the importing state to confirm to the exporting state that a contract exists between the exporter and the disposer specifying the environmentally-sound management of the wastes in question.[790] Thus, it appears that whatever the conditions listed by the importing state might be, the minimum requirement under these international treaties is the environmentally sound management criterion, debatable as its relationship to precaution may be, and the procedural notification and consent rules are meant to safeguard that requirement.

Transit states fall into a somewhat odd category as far as the requirement of PIC is concerned. Under the Basel Convention the duty of exporting states to secure notification to transit states is clear, but the transit state may relinquish its right to consent and

---

[787] See *supra* for the example of the Indian Hazardous Waste Rules, as amended 2000, and its PIC procedure; See Ranjan, S., 2001.

[788] Articles 6(2) (Bamako) and 6(2) (Basel).

[789] Articles 6(9) (Bamako) and 6(10) (Basel).

[790] Articles 6(3) (Bamako) and 6(3) (Basel).

consequently be regarded as permitting a transit movement through its territory if it does not respond to the prior notification within sixty days.[791] Although the prior notification duty applies in respect to non-party transit states it remains somewhat unclear whether this particular category of states can also waive their right of prior consent under the Basel Convention.[792] However, as non-parties they would obviously be free to act unilaterally to waive their own consent requirements, save perhaps in situations where such actions would lead to higher than usual risks of adverse effects to neighbouring states and therefore be contrary to customary international law. Once again, the Bamako Convention provides for stronger safeguards, as it clearly requires both party and non-party transit states to respond to the prior notification within sixty days and it does not agree to any right of waiver of consent by non-parties.[793] As such, the Bamako Convention serves as an interesting example of attempts to bind third parties.

The requirements of prior informed consent, especially under the Basel Convention and the new Convention on PIC in the trade of hazardous chemicals and pesticides, naturally raise the question why such a procedure was not sufficient for the members of the OAU? What more could one ask for, than the right to refuse or accept shipments at one's own will? This is a point that has been underlined by those hoping for continued development of trade in hazardous wastes, rather than complete bans. For instance, Waugh claims that improving the PIC function through further regulation, such as baseline technical and operational standards for receiving facilities, and management, including oversight mechanisms and "compliance assistance opportunities", as well as financial assistance to developing countries and a clearer liability system would be a better approach than banning all trade opportunities.[794] The crux of the matter is two-fold: the temptations of lucrative deals may be bigger than the perceptions of the risks involved, and corrupted officials make the matter worse. The response of the OAU states when adopting the import ban in the Bamako Convention was thus a one-off resort to the right of consent, and it can be seen as recognition of the imbalance in trade between the rich exporters of the North and the poor importers of the South.

---

[791] Article 6(4).

[792] See Lang, W., 1991, p. 154.

[793] Articles 6(2),(4) and 7.

[794] Waugh, T., 2000, pp. 520-538.

III.III. Accident information

Two particular types of communication take place after a waste incident, that is, information on when, where and how an accident has occurred, and information on violations of the treaty regimes (regardless of resulting pollution). The first type, accident information to neighbouring states, should ideally be preceded by information to the local public on emergency preparedness (both for humanitarian and environmental reasons). In order to mitigate environmental effects on the international level, the Basel and Bamako Conventions make identical provisions for emergency information. The respective Articles read as follows:

> "The Parties shall, [whenever it comes to their knowledge], ensure that, in the case of an accident occurring during the transboundary movemement of hazardous wastes or their disposal, which are likely to present risks to human health and the environment in other States, those States are immediately informed.[795]

The treaty texts do not make it clear whether such emergency information is to be conveyed through the Secretariats or directly to the competent authorities of the states concerned, or perhaps, via both channels. Clearly, this is something of a weakness, since particularly emergency situations require as well established channels of communication as possible for immediate mitigation of environmental damage. Under both schemes, accidents that have occurred are to be reported to the Conference of the Parties through the Secretariats in connection to annual reporting mechanisms, but this is of course pointless from the point of view of immediate mitigation.[796] A potential strength of the schemes are that both Conventions encourage the parties to consider the establishment of a revolving fund to assist on an interim basis in case of emergency situations to minimize damage from accidents.[797] Under the Basel Convention such a mechanism is taking shape in the form of the Technical Cooperation Trust Fund, whose scope of application has been enlarged to cover help by the Secretariat to developing countries or countries with economies in

---

[795] Article 13(1) (Basel) and 13(1) (Bamako).

[796] Articles 13(3)(f) (Basel) and 13(3)(f) (Bamako).

[797] Articles 14(2) (Basel) and 14(3) (Bamako). Decision II/2 of the Second Conference of the Parties to the Basel Convention requested the Ad Hoc Working Group of Legal and Technical Experts to consider the elements required for establishing an emergency fund.

transition in cases of emergencies involving hazardous waste movements, including incidents due to illegal traffic. Cooperation is to be done with the UNEP/OCHA Environment Unit. Parties are urged to make contributions to the Fund to support emergency assistance.[798] Whether this Fund/these funds will ever be truly functional mechanisms for the spreading of the cost of risks taken only remains to be seen.

III.IV. Reporting

The first reporting requirement relates to the legislation states have passed in the area of waste management. Articles 4(1)(a) and 13(2)(c,d) of the Basel Convention require states which have prohibited or limited the import of wastes to inform the other parties about such decisions. The import ban under the Bamako Convention is equally strengthened by this notification duty.[799] The parties must inform each other about which national authorities they have designated as "competent authorities" and as a "focal point" and in any changes in them,[800] and about national definitions of hazardous wastes and any changes in such definitions.[801] The Bamako Convention includes equivalent provisions with the addition of a designated "dumpwatch".[802] Obviously, this all presupposes relevant legislation to report on, and many countries have needed help in its development. To that end, and with the advice of experts, the Secretariat of the Basel Convention has developed and revised draft model national legislation for states in the process of establishing legislation and institutional mechanisms.[803]

---

[798] Interim Guidelines for the Implementation of Decision V/32 "Enlargement of the Scope of the Technical Cooperation Trust Fund", in 2000 accessed at www.unep.ch/basel/meetings/interguide; and see UNEP/CHW/C.1/4/26, 30.6.1999, Annex on Trust Fund budget and national contributions, access under homepages www.basel.int.

[799] Articles 4(3)(q) and 13(2)(c).

[800] Articles 5 and 13(2)(a).

[801] Articles 3 and 13(2)(b).

[802] Articles 5 (includes the designation of a "dumpwatch"), 3 and 13.

[803] *Revised Draft Model National Legislation on the Management of Hazardous Wastes and Other Wastes as well as on the Control of Transboundary Movements of Hazardous Wastes and other Wastes and their Disposal*, Basel Convention Series/sbc No: 94/003, Geneva, April 1994; See also *Compilation of the Provisions of National Legislation Related to the Control of Transboundary Movements of*

Secondly, the parties to the two Conventions are also required to report annually to the COP through the Secretariat on amounts of hazardous wastes imported or exported, on transfers which did not go as planned, on accidents, on measures taken to develop technology, and on measures taken to reduce transboundary movements.[804] COP 2 of the Basel Convention parties in 1994 did not produce a debate on the reports as such although about one third of the parties had not reported. Some countries admitted to having had difficulties, but no unwillingness, in meeting the requirement, and that assistance would be welcomed. To meet this need a *Manual for the Implementation of the Convention* and a *Questionnaire on Transmission of Information* has been produced and also the Technical Cooperation Trust Fund established. In 1999, 87 parties and in 1998 72 parties reported under Articles 13 and 16 of the Basel Convention, as compared to 62 for the year 1997.[805] This steady increase in reporting, after great problems in the early 1990s, is interpreted as a growing commitment of the parties to report, and also as a consequence of the active role played by the Secretariat in facilitating reporting.[806]

Institutionally, country reports under the Basel Convention are handled first by the Secretariat, which makes an analytic summary and Country Fact Sheets that are then sent on to the so-called Open-ended Ad Hoc Committee for the Implementation of the Basel Convention.[807] The Ad Hoc Committee meets between the COPs, and in addition to taking

---

Hazardous Wastes and Their Disposal and to the Environmentally Sound Management of Hazardous Wastes, Basel Convention Series/SBC No: 94/002, Geneva, January 1994.

[804] Articles 13(3) (Basel) and 13(3) (Bamako).

[805] For reports received between May 1992 and March 1994, see Reporting and Transmission of Information Required Under the Basel Convention, June 1994, SBC No. 94/007. For reports received between July and October 1994 see Second meeting of the Open-ended Ad Hoc Committee for the implementation of the Basel Convention: Reporting and Transmission of Information Required Under the Basel Convention, 17.11.1994, UNEP/CHW/C.2/1/INF.9. See also No. 6 Managing Hazardous Wastes. Newsletter of the Basel Convention, March 1995. Basel Convention: Decisions Adopted by the First (1992) and Second (1994) Meetings of the Conference of the parties, June 1994, UNEP/SBC/94/008, see Decisions I/11 and II/17. However, with the exception of some countries mentioning difficulties they had with reporting, the second COP showed very little debate on reports; Interview with N. Basavaraj-Schroth, Basel Convention Secretariat, Geneva, 11.7 1995; 49 (out of 111) reports were received by late October 1997 for data for the year 1994, UNEP/CHW.4/18 and UNEP/CHW.4/18/Corr.1.

[806] Comment on the Basel Convention's old web-pages, www.unep.ch/basel; in 2002 equivalent found at www.basel.int under national reports and country fact sheets for 1999; and for newest reports, see under latter web-address.

decisions on various issues related to implementation it reports to the COP on state conduct.[808] Furthermore, the gathering, analysis and dissemination of country-by-country data has been facilitated by the establishment of an Information Management System, which is an electronic information system and an integrated telecommunications network for the Parties.[809] The Country Fact Sheets, along with other material produced by the Secretariat, and COPs are available on the internet. The OAU and its Bamako Convention does not yet provide the same level of transparency.

Initially, it was not entirely clear whether the reporting requirement under Article 13(3)(b) of the Basel Convention referred only to legal movements of wastes or whether reports were to be made about illegal transfers as well, but with the general obligations agreed upon in Article 4 where the parties undertake to co-operate in the dissemination of information and prevention of illegal traffic along with the elaboration of a standard form for reporting confirmed cases of illegal traffic, the issue has been institutionalised. The number of reports on illegal traffic is still quite limited. Demands by the Secretariat for information on confirmed or suspected illegal traffic has produced only a handful of reports, and there is firm ground to believe that many more cases have gone unreported.[810]

The possible effects of the new export ban on illegal traffic is hard to foresee. Essentially the same split in views exists on this issue as did during the original negotiations on the Basel Convention: either one considers the information and consent scheme with entailing transparency as the best option for ensuring that accidents get publicity and illegal traffic remains unnecessary or one argues that a total ban is clearer and therefore easier to monitor than a bureaucratic scheme.[811] In the end however, regardless of whether the system is a managerial and consent based one or based on a total ban, the core issue remains: export and import of hazardous wastes, for final disposal and especially for recycling, remain

---

[807] Earlier called the Open-ended Ad Hoc Committee for the Implementation of the Basel Convention. On its work see e.g. *Reporting and Transmission of Information Required under the Basel Convention*, UNEP/CHW/C.2/1/INF.9, 17 November 1994.

[808] And see UNEP/CHW/C.1/4/26, 30.6.1999 for general discussions and decision on need to develop implementation and compliance mechanisms under the Convention.

[809] Decision I/4 of the First Meeting of the Open-ended Ad Hoc Committee for the Implementation of the Basel Convention and Decision II/18 of the Second Conference of the Parties, Geneva, 25.3.1994.

[810] UNEP/CHW.1/19; UNEP/CHW.3/7; UNEP/CHW/WG.4/LSG./1/2. Krueger, J., 1999, pp. 90-91.

[811] Krueger, J., 1999, p. 90.

lucrative options, and shams, misclassifications and withheld information will flourish to the detriment of people and the environment.

Control of the African import ban is clearer in Articles 4(1)(a) and 4(2)(b) of the Bamako Convention. It requires information on illegal waste import or dumping activity to be forwarded as soon as possible to the Secretariat who shall then distribute the information to the other contracting parties. This is an additional procedural safeguard with the function of bringing international attention to the wrongdoings of other parties. The fear of transboundary leakage of hazardous materials is a politically explosive issue entailing security problems threatening the stability between countries or whole regions. Such instability has already been experienced between Nigeria and Benin when Benin made plans to dispose of waste in a common border area and the Nigerian President threatened his neighbour with military action.[812]

IV. Concluding Observations

The tale of the international regulation of trade in hazardous waste is a success story in several ways. The global treaty, the Basel Convention, has (as of December 2000) been ratified by 142 states, and it has been followed by regional arrangements, most notably the Bamako Convention for the African continent. The political and legal efforts of the late 1980s and early 1990s gave birth to a treaty system that has now reached some maturity. The system is a success especially from an African perspective. It is probably unprecedented that an issue of crucial importance for the continent so quickly - within about ten years - leads to strong international action. The reasons for this are impossible to point at without political study, but may lie in the fact that hazardous waste trade is a limited issue, that it caught considerable attention in media all over the world and raised environmental consciousness, along with a need for states to show "progress" in environmental protection, may have been contributing factors. The sum total, the expected complete prohibition of export of hazardous waste to Africa will in itself be a reason for applauding the states involved. But until the entry into force of the export ban, far from all

[812] See Peter, C.M., 1990, p. 68.

African states are covered by such formally strong measures. General international law should still play a role for those states.

In view of the international and national developments in the area of hazardous waste trade, the question thus arises whether any signs of customary international law have developed? The question is relevant at least for as long as there are still both potential exporting states (most notably the United States),[813] and importing states outside of the treaty systems. If the different procedural obligations discussed above were to be dealt with separately and in detail, variations in the extent to which some norms have been established might follow. Firstly, any discussion on the customary character of a state's right to prior informed consent includes some elements of paradox. Consent is obviously a most natural attribute of state sovereignty. At the same time, in the context of hazardous waste trade, it serves the purpose of strengthening international control mechanisms, which otherwise in the area of transboundary environmental affairs tend to remove decision-making from the national to the international level. The prior consent requirements of the Basel Convention, non-binding instruments, and national legislation restate what inherently must be custom. The Bamako Convention and national import bans in Africa agree and take the customary right one step further. The notion of prior *informed* consent further strengthens the initial information and co-operation requirements. Birnie and Boyle criticize the Basel Convention for its failure to promote public access to decision-making.[814] Taking this critique a bit further, consent of the *state* of import is a weak safeguard if it is based on corruption[815] or quick profits rather than true knowledge among the public about the consequences of hazardous imports. Secondly, prior information of planned undertakings has been referred to as representing general international law, and it certainly seems to do so, [816] especially in light of the development of EIA procedures (as discussed above in

---

[813] See further on U.S. reluctance to ratify the Basel Convention, Choksi, S., 2001, pp. 509-539.

[814]Birnie, P. and A. Boyle, 1992, p. 342.

[815] On bureaucratic and political corruption in Africa, and legal measures related to it, see Coldham, S., 1995, pp. 115-126. And see Mbaku, J.M., 2000; And further Handl, G., 2001, pp. 56-58 on international law, both binding agreements and soft law instruments, relating to combating bribery and corruption.

[816] A few dissenting opinions still existed in the late 1980s on the grounds of lacking state practice or *opinio juris*. See *supra* Chapter 2; See e.g. Bothe, M, 1980, p. 394; But *contra* see Sands, P., 1988, p. 35.

Chapter 1). Thirdly, accident information is no longer questioned as a customary rule of international law.[817]

Fourthly, since supervisory methods, such as annual reporting, are specific to a given treaty, the point of departure is that states do not owe each other any reporting, monitoring[818] or other verification duties under general international law. This may, however, be flawed by unnecessary caution. The perception of the normative basis for reporting and other supervisory procedures may change if the issue is placed into the broader context of information sharing between states. After all, the simple primary rationale of reporting procedures and other forms of compliance supervision is to gather information on state actions and, in some instances, generally on the state of the natural environment. In that perspective, the above-discussed general duty of states to inform on activities with potential transboundary environmental impacts is not far away from the more specific topic of reporting and control measures. This leads to the argument that reporting and other supervisory mechanisms that cumulate environmental information are concrete manifestations in treaty law of the duties of states in general international law to co-operate and to inform on environmental matters, and that in doing so, such methods further reinforce the weight of the norm in general international law. This does not at all deny the possibility that supervisory procedures simultaneously might exist as implications of other needs felt in the international community: for instance, it could still be argued that control exists because of states' suspicions of each other's activities.

The Preamble to the Basel Convention reflects the belief that one way of fulfilling the obligation of "environmentally sound management" is the enhanced control of and the proper exchange of information on transboundary movements of hazardous wastes. As pointed out by one writer, under the Basel Convention, "information exchange is not only the tool for its implementation but also condition *sine qua non* for its scope and some of its

---

[817] See *supra* Chapter 2.

[818] Handl, G., 2001, p. 102, writes: "Environmental monitoring is the *sine qua non* for any state to be able to meet its multifaceted customary or treaty-related legal obligations regarding the environment. Many of these obligations, in particular, those created by global environmental regimes, are premised on state parties establishing an environmental baseline from which national environmental trends can be measured and assessed. Treaty practice specifically calling for monitoring merely reflects, reinforces or refines what post-Rio has probably already evolved into a customary legal obligation for states, namely to monitor environmental trends generally".

provisions".[819] The treaty does provide for some evidence of an international consensus on the need to adopt a precautionary approach to waste management.[820] Such an approach need not be confined to an understanding of it as disposal at site (although that is the goal), but it could also include the benefits that transparency brings into waste management. Recognition of co-operation and information existed before the Basel Convention in the Cairo Guidelines,[821] in subsequent OAU documents endorsing the Cairo Guidelines,[822] and most lately in the Bamako Convention.

If it were not for the exceptional consequences that hazardous wastes can cause, most African states would be likely to welcome the economic benefits involved. But, as the substances involved are capable of causing damage that could well climb over the threshold of *severe* or *serious* harm to the environment, the applicability of the most fundamental international rules on pollution prevention are unquestionable. Information, prior informed consent and other procedural obligations related to openness may also be argued to represent interpretations or implementations of the customary duty of states not to cause harm to the environment of other states.[823] The Basel Convention refers to the dumping of illegal wastes as being in contravention not only of the Convention, but also of general principles of international law.[824] This obligation is perhaps even stronger when the interests of less developed countries are contrasted with industrialized states and the MNEs acting from within their jurisdictions. To this effect, Ranjan argues that "the prohibition on the transboundary movement of hazardous wastes to developing countries" has

---

[819] Introduction by I. Rummel-Bulska in *Reporting and Transmission of Information Required under the Basel Convention,* June 1994, SBC No. 94/007, p. i.

[820] See further Birnie, P. and A. Boyle, 1992, p. 334; and see Ranjan, S., 2001, pp. 89-90.

[821] Article 4.

[822] See the OAU Council of Ministers' Resolution on the Declaration of the African Year of the Environment 1991, CM/Res. 1662 (LI), reprinted in 2(4) RADIC 1990, pp. 682-683; On an undertaking to co-operate in the transboundary movement of hazardous waste, see further Article 59, OAU Treaty Establishing the African Economic Community, Abuja 3.6 1991, reprinted in 3(4) RADIC 1991, pp. 792-839.

[823] See Principle 21, the United Nations Declaration on the Human Environment, Stockholm 16.6 1972, 11 ILM 416 (1972); *Trail Smelter* arbitration, 3 RIAA, 1941, p. 1938, 1962. Also the *Corfu Channel* case points in the direction of a state duty to inform other states of hazards that it is aware of and which might affect other states, see ICJ Reports, 1949, p. 4; See generally Birnie, P. and A. Boyle, 1992, ch. 3.

[824] Art. 9(1)(e) of the Basel Convention.

"crystallized into a universal customary norm of international law".[825] As indicated by the provisions on technology transfers in the above-discussed documents, and as pointed out by the Special Rapporteur on toxic wastes of the UN Commission on Human Rights,[826] many developing states do not have the economic or technical means to carry out the safe disposal of hazardous wastes. The extent of the duty of exporting states to take precautionary information and consent measures thus stands in proportion to the *risk* that the exported[827] waste presents – this being a standard of diligence that some would argue against as being too weak or uncertain. From the point of view of those African states that have banned waste imports, the obligations on information and consent are but a *minimum* norm, and they insist on more. For the exporter states, these procedural obligations might be reaching the limit of their international undertaking, but nevertheless based on custom so as to bind also those states that have no treaty ties preventing export.

Could the failure to fulfil procedural duties affect the determination of liability? The answer is likely to be in the affirmative. Under the Basel and Bamako Conventions the grounds for illegality of a hazardous waste transfer are connected to failures to fulfil the duties of information and consent.[828] The exporting and importing states alike are required to introduce domestic legislation to prevent and punish illegal traffic.[829] The question remains, however, who should bear the final responsibility for harm to the environment from hazardous waste exports when these domestic efforts fall short of securing full redress?

Firstly, there is the question of the allocation of responsibility between the exporting and the importing states. If the importing state has had a full chance to consent to the imports in

---

[825] Ranjan, S., 2001, p. 89. Ranjan bases his argument especially on Art. 9(1)(e) of the Basel Convention.

[826] Special Rapporteur of the Commission on Human Rights on the adverse effects of the illicit movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights; On the Special Rapporteur, Ms. Fatma Zohra Ouhachi-Ksentini's missions, see further at website of the UN High Commissioner for Human Rights, http://www.unhchr.ch/. See also Resolution of 26.4.2000 by the Commission on Human Rights on dumping of toxic and dangerous wastes.

[827] On hazardous technology exports, see Francioni, F., 'Exporting... ', 1991, p. 293.

[828] Articles 9(1) (Basel) and 9(1) (Bamako).

[829] For instance, the Gambian legislation referred to above imposes penalties in the form of fines or imprisonment for dumping of wastes produced from sources outside the Gambia, Sections 6 and 7. The equivalent Nigerian provisions are considerably more severe, see *supra* Chapter I.

question on the basis of sufficient prior information, then perhaps it ought to bear the responsibility simply as a normal consequence of such sovereignty. Alternatively, further protection could be afforded to the importing state if it was a developing state. That is, on the basis of the development status of the importing state the exporting state could be held at least partly accountable as well. This is a radical argument, but it has been made.[830] If environmental harm arises as a consequence of failures to fulfil procedural obligations the argument may grow in validity.[831] The state duty not to cause harm to the environment of other states becomes violated when the correct procedural duties are neglected. This is not a strict standard, but rather one based on due diligence,[832] but where the failure to fulfil procedural duties could still result in a shift in the burden of proof to the advantage of the importing developing state.

Secondly, there is the question of civil liability *versus* state responsibility for the exporter and the exporting state. As seen, the various procedural obligations imposed by international treaty law are geared both towards the exporting state and the exporting private party. In practice there is likely to be a link between the two. However, the determination of liability demands a separation of duties because environmental liabilities that fall upon the private exporter mean that the "polluter pays",[833] whereas state liability simply could mean a burden on tax-payers. However, from the point of view of the developing state that has suffered environmental harm due to the exporter's negligence, the source of the payment makes little difference as long as its damages are met. In order for ends to meet, however, there needs to be both private and final state involvement,[834] as well as insurance and fund mechanisms, such as under the IMO's 1996 Convention on Liability

---

[830] See Waugh, T., 2000, p. 526, and further references in n. 195.

[831] See further Francioni, F., 'Exporting...', 1991, pp. 291-294.

[832] On due diligence standards in international law and under U.S. law relating e.g. to hazardous wastes, see Soljan, L., 1998, pp. 220-221. And see the Superfund or Comprehensive Environmental Response, Compensation and Liability Act pf 1980 (CERCLA), 42 USC Section 9601; and the Superfund Amendments and Reauthorization Act of 1986 (SARA). Under CERCLA Section 9601(35)(B) the degree of knowledge that a defendant has about the risks of pollution from his transaction or the area around it raises the standard of diligence required, see *ibid.* 1998, p. 221.

[833] See further Boyle, A., 'Making the Polluter Pay?...', 1991, pp. 363-369.

[834] For an argument for state responsibility, see Francioni, F., 'Exporting...', 1991; In contrast, see Sands, P., 1989, p. 409.

and Compensation for Damages in Connection with the Carriage of Hazardous and Noxious Substances by Sea (the HNS Convention).[835]

Both the Basel and Bamako Conventions refer to the need for the parties to co-operate in the establishment of protocols on liability and compensation.[836] The parties to the Basel Convention have managed to negotiate an instrument, where both strict and fault-based liability appear. The Protocol on Liability and Compensation for Damage Resulting from the Transboundary Movement of Hazardous Wastes and their Disposal is not yet in force,[837] and it does not greatly change the sad level of development of the issue in general international law, where much work lies ahead of states before these questions of environmental risk/cost allocation can be satisfactorily solved. At any rate, there is also much opposition to strict, several or joint liability for damages related to waste trade, especially from waste generators who fear that they might, for instance, be innocently liable, for example, for the disposal facility's negligence in a situation where they could not possibly supervise such a facility.[838] Instead, pro-trade writers suggest the establishment of trust funds and taxes to help pay unexpected clean-up costs.[839] However, most environmental treaties are nowhere even close to achieving a liability instrument, and together with funding mechanisms and insurance, the eventual success of the Protocol can

---

[835] See the International Convention on Liability and Compensation for Damages in Connection with the Carriage of Hazardous and Noxious Substances by Sea (the HNS Convention), London, 3.5.1996, not in force, which introduces strict liability for the shipowner and compulsory insurance and insurance certificates. This global Convention has only a handful of signatories and two ratifications (1/2002); See generally Ganten, R.H., 1997; Odier, F., 1997; Rengifo, A., 1997; Wolfrum, R. & C. Langenfeld, eds., 1999.

[836] Articles 12 (Basel) and 12 (Bamako). As far as waste generation within Africa, however, the Bamako Convention, Article 4(3)(b), requires its parties to impose strict, unlimited liability as well as joint and several liability on hazardous waste generators.

[837] Protocol on Liability and Compensation for Damage Resulting from the Transboundary Movement of Hazardous Wastes and their Disposal, Basel 10.12.1999, not in force; As of Dec. 2000 the Protocol has 13 signatories, of which none are African states. Both strict liability and fault-based liability appear in the Protocol. If both the importing and exporting states are parties to the Basel Convention, the notifier is strictly liable for damage until the movement document has been signed by the disposer. After that, the disposer is liable for damage. If only one contractor is party to the Convention, strict liability is applied to damages while that party possesses control of the waste. Fault-based liability is applied for failures to comply with the Convention or for wrongful intentional, reckless or negligent acts or omissions, see Articles 4 and 5; See generally Wolfrum, R. & C. Langenfeld, eds., 1999; and Choksi, S., 2001.

[838] There would, especially, be "significant U.S. opposition to the imposition of such liability on generators and transporters", Waugh, T., 2000, p. 527.

[839] Ibid., pp. 528-529.

only be hoped for.[840] The Protocol is marred by potential loopholes: it speaks of "operational control", which can be circumvented by hiring other exporters to notify and control; it exempts parties from liability if they have other arrangements which fully meet or exceed Protocol provisions, an argument which has been used by some developed countries against joining the Protocol; and it does not provide for the liability of exporters or generators for future damages, that is gradual, long-term harm from waste disposals.[841] This last point is particularly problematic for developing countries that lack environmentally sound hazardous waste management technology.

The new international regulation of trade in other hazardous substances than waste, that is chemicals and pharmaceuticals, is of great value, since there should be fewer loopholes based on the misuse of labelling. Still, the waste trade will not disappear overnight. The implementation of procedural norms still depends both on the extent of state will to fulfil them and, on the existence of equivalent functioning transparency at the national level. The allocation of social, economic and environmental risks is still largely unbalanced to the detriment of importing developing states. The initiative under the global Basel Convention to arrange a conference in 2001 to deal with the specific problems of Africa in relation to hazardous wastes was therefore very welcome.[842] Even with strong legal constraints, such as under the Bamako Convention and coming up under the Basel Convention, and growing coordination between different environmental treaties and institutions,[843] illegal traffic[844] would be likely to continue because of the large profits in play. International law, including its implications of state responsibility and liability, may be a frighteningly slow (and in the view of MNE activities, even unfair) tool for the dismantling of the waste trade problem.

---

[840] On issues discussed in relation to the drafting of the Protocol, e.g. the channelling of liability, liability for illegal traffic etc., see Handl, G., 'Comments on Draft Articles of a Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Wastes and their Disposal', UNEP/CHW.1/WG.1/5/L.1/Add. 1; See also Consultants' Study on Financial Limits of Liability under the Protocol, Summary, by H. Bocken, E. de Kezel and K. Bernauer, www.unep.ch/basel/Protocol/Report.

[841] Further on these loopholes, see Choksi, S., 2001, pp. 524-526.

[842] First Continental Conference for Africa on the Environmentally Sound Management of Unwanted Stocks of Hazardous Wastes and their Prevention, Rabat, 8-11.1.2001, see www.unep.ch/basel/Congress/.

[843] Such as strengthened cooperation in customs controls, see UNEP efforts at collaboration and synergies in relation to the Basel Convention, www.basel.int, and see 5 *Synergy* June 2001, p. 7.

[844] Further on illegal traffic and the Basel Convention, see Fathalla, A., 1996, pp. 33-39.

This makes the case for greater openness, and its potential for public scrutiny and government accountability, even more compelling.

***

3.4. An Assessment

Success?

Reporting procedures are very successful in the sense that they flourish in nearly all multilateral environmental treaties. They are evidence of widespread will among states to agree to such procedures, whether because they are considered indispensable, satisfactorily functional, or lesser evils than substantive promises. Reports offer points of reference for assessing, and re-assessing, state behaviour. They give insights into state behaviour after the fact, and are therefore often considered to have the potential of playing some role in the repression of non-compliance. In a system which ought to function on the expectation of shared responsibility and reciprocity, they may give rise to unease when non-compliance is revealed. To the extent that reporting and other information-gathering can provide a basis for negotiations, the procedures may function as at least modest or, at best sophisticated, forms of early dispute avoidance mechanisms.[845] Neither does the environmental harm-prevention effect of reporting procedures be wholly scorned upon: even if the *international* part of the schemes were futile, the *national* preparation of reports could have some limited significance, depending on the publicity and participation of the endeavour.

Functions

Mostly, however, reports are neither preventive nor repressive, the classical dichotomy is not an accurate tool for describing the roles and functions of environmental reports. Instead the most convincing descriptions seem to relate to information accumulation and dialogue. The first because it is so obvious (great numbers of reports, including data, statistics etc., irrespective of whether it is ever read or utilized) and the second because it describes, in a nutshell, that truly preventive or repressive roles are not only slim wishes, they are unwanted by states.[846] The accumulative function is massive, and the information can often

---

[845] Handl, G., 1994, p. 329.

be focused on issues of great international relevance. The contents of reporting obligations are varied, but typically related to states' implementation of and compliance with particular treaty obligations, as opposed to general information on the state of the environment. At best, reports are comprehensive and coherent with other reports, they are conscientiously submitted on time, there are institutional arrangements where "true" dialogue can happen about states successes and failures in treaty compliance, and reports are made public and easily accessible to all. Evidence of this best scenario seems to be growing under some environmental treaties, where at least the technical modalities of reporting are beginning to be in place, and where the actual effects of reports and the dialogue around them on states' environmental behaviour is often assumed to be positive, although cause and effects are not readily discerned.

Strategy

As it stands, information accumulation has become an end in itself, a structure or strategy for the way in which environmental treaties, and all of international environmental law today, is construed. Indeed, as Handl writes, it seems that "NCPs are clearly here to stay".[847] It is of course quite possible to imagine that satellite monitoring and other "hard" verification in the future could so completely take over environmental information gathering[848] that institutional methods such as reporting would become superfluous for compliance control. This could certainly involve both more accuracy and greater measures of objectivity, provided the scientific measuring methods are agreed upon and cooperation with local scientific groups and local authorities are maintained.[849] Although technology may offer all the possibilities for this development, some social and economic considerations are likely to continue keeping less sophisticated methods in primary use. Most importantly, satellites, and the data they accrue, are costly and often far beyond the attainment of developing countries. Also, so-called paper-implementation of treaty provisions can for obvious physical reasons not be covered by technological means.

---

[846] *Cf.* on states' lack of will to improve human rights supervision, see Crawford, J., 2000, p. 10.

[847] Handl, G., 1994, p. 328.

[848] See generally Litfin, K.T., 1995, p. 1 *et seq.* For the wider discussion on the implications, legal, technological and those related to national security, of satellite monitoring or remote sensing, see Spitzer, D., 1986; Frieden, L., 1988; Szafarz, R., 1988; He, Quizhe, 1992; Sayn-Wittgenstein, L., 1992.

[849] See interesting early estimate related to the prospects of climate change monitoring by Fischer, W., 1992, p. 284.

Therefore less costly institutional mechanisms are likely to continue as the preferred method in many treaty regimes. And, at any rate, technology-belief, which will be returned to below, is problematic: it does not generate values, but its use (the way it is directed, what is chosen as objects of study, etc.) presupposes many notions of choice.

Procedure before substance?

The elaboration of procedural paragraphs may be a first step on the path to realizing a full environmental treaty with concrete prohibitions, reductions or other means of pollution control. Procedural norms may be easier to agree on, and they may, as it were, open the channels of communication between states. The picture drawn above of the legal restraints in the international trade in hazardous wastes may tell us something about the role of procedural requirements. On the one hand, information, consent and transparency are instruments for the environmentally successful management of waste transfers; on the other hand, they have under the Basel Convention been necessary steps on the path to banning waste exports to non-EC or non-OECD states. Procedure has thus gone before substance. The waste trade scheme in the Basel Convention is however an unusual way of letting procedure before substance. States have more often preferred framework conventions, which are by definition empty of concrete goals, but often contain procedural obligations.[850] Research, monitoring and various information exchange provisions are often the basis, the minimum that states can agree upon failing exact targets. The Climate Change Convention is the example *par excellence* of a situation where states initially found it extremely difficult to reach agreement on anything beyond the framework itself, except on reporting; but this does not mean that framework conventions have been failures. On the contrary, it is perhaps a matter of whether one chooses an optimistic or pessimistic perspective, because there is likewise the argument that a weak procedure-based beginning may well result in a strong substantive end.[851]

---

[850] The Basel Convention, although largely functioning on the basis of procedural norms, cannot be called a framework convention because it contains norms on the best ways of handling waste (e.g. *in situ*), and it is not *a priori* meant to be followed by concrete protocols etc.

[851] Fauteux, P. in commentary to Gündling, L., 1991, p. 111. See also Hahn, R. & K.R. Richards, 1989, p. 438.

In 1991, Gündling wrote that "[t]he framework convention approach gives an incentive to defer from difficult issues to be agreed on later, if ever."[852] But he also admitted: "On the other hand, environment protection needs widespread international co-operation. Radical solutions are difficult to realize and sometimes counter-productive; flexible strategies and instruments are needed. The framework convention-protocols-approach may be considered as such a strategy"[853] The Vienna Convention on the Ozone Layer had in the late 1980s just led to concrete targets under the Montreal Protocol, and the LRTAP system has in the 1990s developed with several Protocols on exact reductions. Also, since these arguments, reporting procedures and other "flexible" NCP-measures have developed considerably, and "self-monitoring"[854] has mostly become peer review, in a few instances with elements of expert advice added. In other instances, information and supervisory provisions may have been brought in later, through treaty amendments or Protocols. This may be a sign that some, or the same, procedural duties may be difficult to agree on or that they are negotiated in response to earlier treaty compliance. In all of these cases, the attitude is reflected that the object of the treaty, for instance pollution, can be managed through co-operation.

Management

Overwhelmed by the practical evidence of management, such as the hundreds, maybe thousands of reports turned in under different treaties each year, the researcher could easily be seduced to believe in a managerial ethic. On the other hand, even hopefulness does not generate vision that makes reporting look like a state-of-the-art way of dealing with environmental problems. They are slow, they are state-to-state, they are often not turned in, and it is doubtful whether many really read them. Then there is the example of the Bamako Convention. A conviction that procedural norms on information, notification and consent are not sufficient protection against the risks of hazardous wastes led many African states to choose the radically different and much shorter path of immediately resorting to substantive import bans, either unilaterally or via the Bamako Convention. Several new

---

[852] Gündling, L., 1991, p. 100.

[853] Ibid, p. 98.

[854] And in 1989 Hahn and Richards had argued that "international environmental agreements usually contain only weak enforcement mechanisms and that individual countries typically monitor their own compliance". But they did not see that as inherently bad. In their view countries could reap the public image benefits of signature without bearing the cost of implementation, and that that would make good political sense, see Hahn, R. & K.R. Richards, 1989, pp. 437-438.

African states also joined the Basel Convention after its Parties decided to introduce an export ban outside of the EC and the OECD. It is difficult to see how this could have been a reaction against greater openness as such, but it could be an argument that it reflects a frustration with the "managerial ethic", the idea that everything can be controlled through light procedures of various kinds.

Despite its attractiveness, the current managerial ethic comes with several specific limitations and reasons for worry. Firstly, as noted, reports under environmental treaties hardly represent and do not necessarily contain the cutting edge of environmental data. Written by bureaucrats with different training backgrounds, they may be, for instance, too general to reflect properly on scientific knowledge or too scientifically oriented to be properly digested by the few who read them. The "hard facts" from satellite surveillance and other types of technical monitoring may never reach the state reports. Reports could also simply "drown" in the massive and growing amounts of available environmental information. They do, however, add to the diversity of sources of environmental information, and to the extent that they are increasingly made publicly available, they could be acquiring a greater role as points of reference against which state conduct can be verified, that is by the public, rather than by peers only. This is an important point (related to greater rights of access to environmental information which is discussed in the next chapter) especially because of its implications for a growing culture of openness and for the re-distribution of some sort of "responsibility" also to those individuals and groups of individuals who read and react, or fail to react, in public to information to which they have access.

Secondly, reports alone could hardly be said to "develop" international law on the environment in any immediate or constructive sense, mostly, reporting looks like an excuse for the maintenance of the *status quo*. Arguments on a "legislative function" for reporting systems, or rather whole NCPs,[855] however, point towards the "flexibility" of norm-amendment that has been built into some current environmental regimes. The conclusion

[855] See Sand's argument, 1999, pp. 341-343, on the need in environmental matters for flexible standard adjusting institutions, e.g. through technical amendments, reinterpretation, exemptions, escape clauses, loop-holes, and expert advice. *Cf.* Bodansky's "legislative function", which he argues contributes to scientific understanding (referring to national inventories of greenhouse gas emissions, which although correct, is problematic as evidence because it represents an unusual kind of clear, science based assessment seldom seen under other environmental treaties) and to assessments of progress of states under treaties, and that these form a "factual basis for decision about whether to develop new or amended norms", 2000, p. 367.

that "the very act of reporting is significant" is thus just as valid (for the same general reasons of belief in compliance enhancement through mild international scrutiny as in human rights reporting) also under environmental treaties, given the present managerial ethic of incremental change. In the long run, "flexible", expert or scientist-influenced, and often open-ended treaty management, including reporting, has relevance for norm creation and amendment, but the very basic problem remains that such an ethic of soft supervision, information gathering and incremental change may sometimes be problematic in terms of legitimacy[856] and ill-suited to environmental protection at large when, thirdly, reporting and other soft supervision could also fail as tools in assigning ultimate responsibility. Instead, soft management might increase free-riding.[857] And fourthly, the fact that not only prevention, but especially precaution, continues to gain a stronger position in environmental law, the predominantly after-the-fact character of state reports makes them dubious as a method of furthering environmental protection. This would not be so problematic if there were several other stronger precautionary methods of international cooperation in simultaneous use, which there rarely is, or if there was certainty about the quality of the substantive norms, rather than uncertainty about where incrementalism and *ex post facto*-"flexibility" is leading.

Procedure without substance?

An examination of reporting procedures thus does not tell us very much about the strength of the substantive duties involved: the information received could be void of meaning if the norms that are to be checked on are weak or watered down in the first place. Weak or poorly phrased environmental rules may well, when either implemented or supervised, lead to "correct" or "correlating" information, but precisely that information may be beside the point/irrelevant/nonsense from the point of view of the goal, environmental protection. The legal framework is then a slowing factor, a tool that performs the wrong work. Inversely, the poor quality of environmental information would hinder the sound development of environmental law,[858] simply because the messages sent are out of proportion, outdated, late, ill-measured, partial, falsified or simply left out.

---

[856] I.e. for the credibility and legitimacy of an environmental treaty, see Sand, P.H., 1999, p. 345, see *supra*.

[857] Ibid, p. 345.

[858] *Cf.* Bodansky's "legislative function" of national reports, 2000, p. 367, and Sand, P.H., 1999, p. 341-343, discussed *supra*.

And indeed there has been a tendency in the last decade to mention so-called treaty congestion as a source of concern in international environmental law.[859] Developing countries in particular are said to have some difficulties in keeping up with the rapid developments within the area, and, as within human rights law, some treaties' reporting and monitoring obligations pose considerable challenges to small and non-specialized administrations. This is, however, mostly a *quantitative* concern, and although it is a valid point in some contexts, if over-emphasized it could still be said to distort the overall picture of international environmental law. Although many questions are rather well developed, especially regionally, in both qualitative and quantitative terms, enormous weaknesses remain and entire global questions such as global warming have, in a grave understatement, serious teething problems.[860] Despite their abundance, environmental norms may be insufficient, and there is a strong case for qualitative development.[861]

This is a distressing thought, because it would imply a need to go from peer review and management back to norms *da capo*. Do we need more and/or better norms or do we need better compliance and supervision? The questions are suffocating, because although affirmative answers probably need to be given to both, a sense of being trapped in a vicious circle, or a dualist straightjacket in the traditional idealist-realist tradition, is born.[862] Indeed one alternative could be to speak up, once again, for better norms. This could have its immediate merits, but also shortcomings similar to those of one-sided stressing of compliance enhancing and supervision.[863] From norms to compliance, back to norms, and

---

[859] Brown Weiss, E., 'New Directions...', 1995, pp. 4-7.

[860] In the case of global warming both in terms of the quality of the negotiated rules (the targets) and the ratification dilemma; See generally, Cameron, P. & D. Zillman, 2001; and Cameron, P., 2001, pp. 3-23.

[861] For the issue of quality control in the human rights area where many rather frivolous suggestions for new "human rights" have been suggested, see Alston, P., 'Conjuring Up...' 1992, pp. 207-221. In the environmental area, the problem is not so much that concerns of lesser importance would be raised internationally, but that despite urgency entire crucial questions do not harden into law. A case in point has for decades been toxic chemicals, a situation which is now beginning to be rectified as a first step has been taken through the adoption of UNEP's global POPs Convention at Stockholm in 2001.

[862] See Kennedy, D., 1999, p. 469 on modernism as "eternal return": "This sort of internal criticism of the law, which led international lawyers in this century from formalism to process, places us now against the constraints of process as well, wishing for a broader, alternative world of choice and strategy".

[863] The "pendulum" movement remains irrespective of constellation: Consensus among states (norm-making) and subsequent peer review (supervision); or epistemic influence (norm-making) and expert control

with time yet again to compliance, seems like a pendulum movement, where stressing one always implies reviewing the other. Ultimately, the abundance of norms on information together with their normative "emptiness" if they come without attached substance may be an indication of the marginalized role of international law as a whole for environmental protection. This is one of the central paradoxes in "international environmental law", and forms a basis for the discussion in the next chapter on rights of access to environmental information.

(supervision); or public participation (norm-making) and public control/watchdog (supervision); or some other constellation.

4. ...AND ON TO INDIVIDUAL RIGHTS OF ACCESS TO INFORMATION?

4.1. Introduction: A Process Come to a Dead End?

The two previous chapters have discussed the various environmental information duties and exchanges between states. The managerial attitude of which these information schemes are manifestations is functionalist and pragmatically based on context-specific self-interest and state practice. Yet – or just for those reasons - the managerial ethic is not without worrying limitations. Among possible dilemmas, the two previous chapters have pointed at two shortcomings specific to the role of inter-state environmental information:

In the first case, state duties to inform with regard to planned undertakings and accidents (the "first phase" of development in environmental information exchanges) were argued to be crucial for the *mitigation* (as opposed to prevention) of transboundary environmental harm, and the fundamental character of these duties were argued to be strong representations of customary law and even general principles of law. But at the same time, such information duties were sadly seen to play only a *modest role* in environmental protection. Information duties are not action; they are mere – albeit important - prerequisites. And at any rate, although centralized warning-systems may be crucial in some types of accidents, in many cases the speed and even accuracy of the media in relaying information may be more important than information exchanges based on formal agreements between states.

In the second case, the supervision/compliance trend was seen as worthy of serious consideration, not least because the debate in favour of a managerial ethic seems to contain such conviction of necessity. Reports and other control methods were treated not so much as verification proper (suspicion, balance of interests etc.), but more as a means of gathering information on the environment (a "second phase" in the development of environmental information exchanges). Attention was mostly focused on the softer functions of reports, particularly the means they offer for dialogue and drawing attention to the problems states have in fulfilling their obligations. However, the discussion on supervisory information exchanges led to the fear that although solid environmental information may be produced through the control mechanisms that have developed under many treaties, the opposite could also be the case. Hosts of procedural obligations do little

good if there is not the right quality - as opposed to quantity - of substantive norms. In the weakest cases there is only procedure and organization but no substance, that is, only methods of management, but little agreement on what is to be done, and this amounts to a "quality dilemma". The argument would be that in such cases either the mere motion of informing could not have meaning for environmental protection, or it would become a method of incremental norm-amendment with open questions on legitimacy attached, and that in both cases the tool, environmental law, might be ill conceived.

The "modesty dilemma" and the "quality dilemma" come together to raise some troubling questions: where does a managerial attitude take us? Is it at the cutting edge of international environmental law and policy or does it, on the contrary, cut *off* the edge of environmental protection? Does the information and supervision boom of the 1990s reflect frustration with the inherent weaknesses of international law (such as the slow development of state responsibility, as well as shortcomings in international enforcement and sanctions mechanisms) and a fatigue and exhausted resort to management and softer forms of persuasion? Or is the promotion of management a response in appreciation of the rapid proliferation of international environmental norms, understood as proof of - a triumph of confidence in - the ability of international law to stand up to the challenges posed by environmental degradation? Perhaps neither of these, but rather a mixture of pragmatic aspirations, this liberal-institutionalist trend is seductive in simplicity and convincing as to the merits of information/openness/transparency as the buzz-words of today. Denying some of its merits would be outright cynicism, and yet it leaves a nagging sense of want. Even the promise held by the Kyoto Protocol is a case in point: it contains provisions for an enforcement mechanism - one of the most elaborate seen so far – but the future of the Protocol is marred by the fact that key states remain outside. And even if its global ratification was certain, it may well be that its success would be dependent on compliance enhancement mechanisms other than the managerial ones considered above, i.e., reduction methods,[864] transfers of technology, scientific and technical support and financing mechanisms[865] (also those outside of the Convention system, such as the World Bank initiated Prototype Carbon Fund (PCF), developed as a tool for the emerging carbon

---

[864] For a comparison of different regimes, see e.g. Epstein, M. & R. Gupta, 1990.

[865] On funding under the Protocol see Decision 5/CP.6 on Implementation of the Buenos Aires Plan of Action, FCCC/CP/2001/L.7, taken at the resumed COP6 at Bonn in July 2001.

emissions market and intended also as a way to realize the joint implementation[866] (JI) and clean development mechanisms (CDM) of the Kyoto Protocol[867]), to mention but a few of those potential methods which have here been completely left outside of the discussion.

Most treaties deal with problems of a lesser magnitude than global climate change but still have much greater weaknesses built into their control systems. Article 27 of the amended Mediterranean Convention requires the Meetings of the Contracting Parties to assess compliance with the Convention and the Protocols as well as the measures and recommendations on the basis of periodic reports. The meetings shall recommend the "necessary steps to bring about full compliance" with the Convention. A few other treaties refer to the same "steps", but the concrete means available for treaty bodies and meetings of parties is still very vague indeed. Although some report-examining bodies do have the possibility of actually pointing at cases of non-compliance on the basis of reports, the process seldom goes that far. Changes in decision-making powers of treaty bodies, especially their possibilities to take decision by less than consensus votes, a development most interesting in the Montreal Protocol,[868] is a possible way to concrete meaning for phrases such as "steps to bring about full compliance". But even then the qualitative issue of what such steps might consist of remains unsolved, and there are few clues as to the options. This is perhaps one of the most central weaknesses of the systems now in use. The compliance and enforcement mechanisms in the Kyoto Protocol may prove to change the situation - but only for that agreement. Even if the Kyoto Protocol or some other process would provide inspiration for strengthened control measures, the majority of environmental treaties are likely to continue with their weaker structures for a long time to come.

There is a risk that the initial hope on which the very theme of this study – i.e. the potential of information accumulation as a tool for environmental protection generally and the development of international environmental law specifically – was based, is lost in the

---

[866] On the concept, see e.g. Loske, R. & S. Oberthür, 1994; Oberthür, S., 1994, pp. 45-58; and *Activities...*, OECD, 1997

[867] The International Bank for Reconstruction and Development, Prototype Carbon Fund: Participant's Agreement and The Instrument, 22.7.1999.

[868] See Palmer, G., 1992, pp. 259-283. For examples from conservation treaties see e.g. CITES, which requires 2/3 majority voting for decisions, but *contra* the CCAMLR Commission requires consensus on substantive issues.

dilemmas borne by the managerial ethic. The weaknesses of the present ethic may overshadow the "promise" of information accumulation. Yet both the hope for a positive role for environmental information arrangements in international law and the discussion on the dilemmas present in these managerial arrangements could perhaps benefit from a shift of interest towards public access to information. Greater transparency could mean better checks on decision-making, accountability, and it could fend off problems of free-riding.[869] Therefore it has with increasing frequency been argued that one possible route to better environmental protection goes via enhanced public access to environmental information and greater public participation in environmental decision-making. Here developments in international law could come to play a role in influencing also traditionally secretive or undemocratic societies. This would be an argument that continues on and broadens the initially hopeful note *vis-à-vis* the role of environmental information for environmental protection and law.

4.2. Access and Participation in Environmental Treaties

By approaching the information issue from the level of the "receiving end", the individual or whole communities or groups of individuals, it should be possible to get a more complete picture of the already very broad field of environmental information in international law. The chapter starts off with a look at the **A) treaty provisions** and some soft law pronunciations forming the evolution of the topic from states' affirmative duties to disseminate information to the public, to access to obtain information that falls short of individual rights-language. Dissemination and access cannot be successfully divided into traditional environmental media-based groups as accident information and supervisory information provisions could above. When summing up **B) the contents** of rights of access to environmental information, dividing lines are found in the *extent* of access: what can be accessed, documents, narrow but specific, or broader general environmental information? Do access rights exist narrowly to specific environmental concerns only, or generally to any environmental situations? And finally, do access rights exist in treaty law only or perhaps even in general international law? Access is still more often granted to citizens rather than to anyone in a transboundary context, and therefore some national and regional arrangements are discussed alongside multilateral treaty development. Also, it is asked

[869] See e.g. Sand, P.H., 1999, p. 345.

whether the contents of treaty-based dissemination and access are circumscribed by some *exceptions*. And finally, whether there are any examples of explicit rights-language in relation to access.

This last question is continued in an in-depth examination of the most recent developments within the European Union and the UN Economic Commission for Europe, and some of the issues they raise, in chapter 4.3. Besides treaty provisions, evolution and contents, this stage of the study brings in a discussion on **C)** the possible **functions** of full-fledged rights of access to environmental information. The legal development of access to environmental information may or may not show similarities to the development of the state information duties discussed above, but more importantly, it is assumed to bring in the potential for new approaches to environmental protection and law. The chapter thus explores the idea for a "new ethic", as opposed to the idea of a "managerial ethic" from the point of view of these regional developments. This includes the challenging less optimistic view that a rights-development is not as attractive or feasible an option for the advancing of international environmental law as one might think at first glance.

4.2.1. Treaty Provisions

a) General Rights to Public Information

The evolution of rights of access may first be approached through the notion of a general "right to information". General rights of access to public documentation are frequently provided for in Western legal systems,[870] and several OECD countries further have express legal provisions on the access of citizens to environmental information, either documents or more general.[871] Several international agreements and declarations refer to the freedom or

---

[870] For instance, in the United States: the Freedom of Information Act, 5 U.S.C. 552, 1967 and the Privacy Act; New Philippine Constitution, 1973, Section 6, Article IV; Estonian Constitution, art. 44; The Constitution of Finland, 11.6.1999 731/1999, Section 12; and for Finland see the Act on the Publicity of Official Documents, 9.2.1951 83/1951, latest amendment 1.6.1999 526/1999 and Decree 22.12 1951 650/1951, latest amendment 1.1 1995 1558/1994; (and see Lag om offentlighet vid rättegång, 21.12.1984 945/1984, latest amendment 1.3.2000 109/2000; Lag om förvaltningsförfarande, 6.8.1982 598/1982, latest amendment 1.12.1999 688/1999, esp. par. 5.) and especially Act on the Openness of Government Activities, 21.5.1999 621/1999.

[871] E.g. in Finnish legislation, see Environmental Protection Act 86/2000; For an overview of several countries, Winter, G., 1990. See also Vallauri, J-P, 1989, pp. 293-299; Campbell, D., 1994; and for reference

right of the individual to seek and receive information.[872] Provisions are not unrestricted, but limitations of secrecy normally accompany them,[873] and it would be hard to argue for the existence in general international law of a separate, generic right to information. Instead, some would argue that such a right may perhaps in specific cases, and in particular legal systems, be based on other existing rights.[874] It is also important to remember that a right to information, as constructed in international agreements, refers to the right of persons under the jurisdiction of the state, thus normally excluding transboundary information. Express mention of a right to environmental information in legally-binding international documents are still relatively rare, as will be discussed below.[875] There is, however, hardly any reason why *environmental* information should automatically be assumed not to fit under the various general information provisions. On a regional level, the European Convention on Human Rights[876] can be interpreted to contain a right of access to environmental information.[877] Such an assertion would have to be made under Article 10 on the basis that the information looked for is of general importance, or under Articles 8 (as has been done in case-law) and 2 arguing that environmental hazards constitute a threat to individual privacy and life, and that information therefore is vital.[878]

---

to U.S. Clean Water Act and Marine Protection, Research and Sanctuaries Act, see Handl, G., 2001, pp. 49-50.

[872] Article 19(2) of the International Covenant on Civil and Political Rights, New York, 16.12.1966, entry into force 1976; Article 13 of the American Convention on Human Rights, San José, 22.11.1969, entry into force 1978; Article 9 of the African Charter on Human and Peoples' Rights, Nairobi, 27.6 1981, in force 21.10.1986; Article 19 of the Universal Declaration of Human Rights, United Nations General Assembly Resolution 217 A (III), 10.12.1948; See Tolentino, A.S., 1987, p. 30; The various instruments also contain provisions on the freedom of expression, another prerequisite for effective communication of, e.g., environmental information. See further, Fauchald, O.K., 1991, pp. 109-110, and see Österdahl, I., 1992; Suksi, M., 1997, p. 2.

[873] See further Fauchald, O.K., 1991, p. 106.

[874] Suksi, M., 1997, see pp. 2-3, where he writes i.a. about the connection between the rule of law and a right to information, and about the connection between a right to information and participatory, political rights.

[875] See further The Nordic Council of Ministers' Working Group on Environmental Information: *What You Don't Know Will Hurt You. Environmental Information as a Basic Human Right*, 1992.

[876] Convention for the Protection of Human Rights and Fundamental Freedoms, Rome, 25.3 1957, in force 3.9.1953. NB: The EC is not a Party to the Convention.

[877] Weber, S., 1991, pp. 178-183; and see generally also Desgagné, R., 1995, pp. 263-294.

[878] Traditionally European case-law has not supported such a broad interpretation of the European Convention, see Weber, S., 1991, p. 185; But *contra* more recent case-law relating to Article 8 and environmental information, see *Guerra et al. v. Italy*, 19.2.1998, 116/1996/753/932, where the European Court of Human Rights held that the applicants would have been entitled to "essential information that would

b) Emergency Information to Workers

The communication of risk information can be directed from individuals/private parties to states, from states to individuals/private parties, from individuals to individuals and from states to states.[879] Any "right" of the individual to receive information must be accompanied by the obligation of the state to communicate such information. According to Kiss and Shelton, "[d]uties of the states can be limited to abstaining from interfering with public efforts to obtain information from the state or from private entities, to requiring the state to obtain and disseminate all relevant information concerning both public and private projects".[880] In a sense, the historical predecessor of transfrontier environmental information between states is knowledge presented – nationally - to individuals involved in work at hazardous installations. The development has gone from the discretion of owners and operators of dangerous undertakings to inform potentially endangered workers to the "right to know" about dangerous activities in ones own workplace. Knowledge about exposure to risk is not only considered a prerequisite for personal security, but also an important means towards the prevention of accidents.[881] The main topic in Chapter 2, state-to-state accident information, meshes with the issue of access to environmental information through one interesting treaty, the ILO's Convention No. 174 concerning the Prevention of Major Industrial Accidents.[882] The ILO Convention, quite in the tripartite tradition of the Organisation, speaks not only of the duties of the employer and the state via its competent authorities, but also of the rights and duties of workers. Under Article 20 of the Convention, workers at a major hazard installation shall:

> (a) *be adequately and suitably informed of the hazards* associated with the major hazard installation and their likely consequences;
> (b) be informed of any orders, instructions or recommendations made by the competent authority;

---

have enabled them to assess the risks they and their families might run"; Further see Desgagné, R., 1995; Miller, C., 1999, pp. 157-176; And see Thornton, J. & S. Tromans, 1999, pp. 35-57.

[879] Weber, S., 1991, p. 185, argues that the European Convention may even force a state to obtain environmental information from individuals. See idem., n. 9, p. 177 on information between individuals.

[880] Kiss, A. & D. Shelton, 1993, p. 494.

[881] Smets,H., 1989, p. 16 and Smets, H., 1991, pp. 451-452; Van de Gehuchte D. and D. Cornelis, 1994, pp. 36-37.

[882] ILO Convention No. 174, Geneva, 22.6.1993, in force.

(c) *be consulted in the preparation of, and have access to, the following documents*: (i) the safety report; (ii) emergency plans and procedures; (iii) accident reports:
(d) be regularly instructed and trained [...]
(e) [...]take corrective action and if necessary interrupt the activity where[...] they have reasonable justification to believe that there is an imminent danger of a major accident, and notify their supervisor or raise the alarm,[...]
(f) discuss with the employer any potential hazards they consider capable of generating a major accident and *have the right to notify* the competent authority of those hazards. (emphasis added)

Thus far the workers. The next step has been information to the public at large,[883] that is, residents of a particular community. Under ILO Convention 174, the competent authority, i.e., the state, shall under Article 16 disseminate to the general public liable to be affected by a major accident, without their having to request it, information on safety measures and the correct behaviour to adopt in case of an accident. The public is thus not granted any explicit rights of access, but duties are placed on the parties to the Convention, just as in the case of information to another state. The policy issue whether the aim under the Convention of Members to "formulate, implement and periodically review a coherent national policy concerning the protection of workers, the public and the environment against the risk of major accidents" should include clear rights of access to information thus remains an open challenge to states.

c) Environmental Information Dissemination to the Public

In the most fundamental sense, information to the public begins with education.[884] Principle 19 of the 1972 Stockholm Declaration[885] refers to the importance of education in environmental matters. An equivalent emphasis on the value of education is found in the World Charter for Nature.[886] These two documents deal, however, with the issue in a very

---

[883] Issues of consumer safety information remain outside of the scope of this study.

[884] See generally Tolentino, A.S., 1987, pp. 32-33. The author argues, i.a., that access to environmental education is coherent with Article 19 on the freedom of information, expression and opinion in the Universal Declaration of Human Rights, 10.12.1948, UN GA Res. 217 A (III).

[885] No equivalent provision is included in the Rio Declaration of 1992.

[886] Articles 15 and 16, World Charter for Nature, United Nations General Assembly Resolution 37/7, 28.10.1982, 37 GAOR, Supp. 51 (A/37/51).

general fashion, and as education is fundamental for the effective response of the public to environmental emergencies and for public participation in environmental decision-making there are great challenges as to the quality of such instruction.

An example at national level from the area of risk and accident information is provided by the United States where the Emergency Planning and the Community Right to Know Act[887] (EPCRA) stands as basis for a relatively elaborate information scheme complemented by state and local regulations.[888] The EPCRA is however circumscribed in at least one important way: it does not require any communication of, or indeed even the preparation of, particular analyses on the risks of a certain industrial undertaking. This makes for an information scheme that, for its effective implementation, is largely dependent on measures taken voluntarily by the industry in fear of costly litigation.[889] Thus public pressure is at the core of this system, rather than expert advice and preventive supervision by the authorities.[890]

The public's access to environmental information on risks and accidents is well developed within the European Community. The so-called Seveso Directive of 1982, and replaced in 1999 by the "Seveso II" Directive, concerns the communication of risk information from

---

[887] Emergency Planning and Community Right to Know Act, 1986, 42 U.S.C. 11001. Also referred to as the Superfund Amendments Reauthorization Act of 1986, or SARA, Title III. The original Act is divided into sections on emergency planning, emergency notification, community right to know reporting and toxic chemical release and emissions inventory reporting. These reports are to flow through state emergency response commissions and local emergency planning committees, and the entire scheme is run by the Environmental Protection Agency's (EPA) regulations and lists of toxic chemicals and their respective threshold quantities. In case of an emergency, section 304 requires the submission of immediate information from an operator to the local committee and the state commission. Under Section 324a, subject to Section 322 on trade secrets:

> [e]ach emergency response plan, material safety data sheet ... inventory form, toxic chemical release form, and follow-up emergency notice shall be made available to the general public ... by the [EPA] Administrator, Governor, State emergency response commission, or local emergency planning committee, as appropriate.

[888] See further Scott, R., 1990, pp. 971-975. On Californian legislation, Pease, W.S., 1991, pp. 12-20; and see "Sector Facility Indexing Project", 62 *Federal Register* 19573, 1997.

[889] The issue of voluntary prevention became particularly topical in the U.S. after the Exxon Valdez oil-spill off the coast of Alaska on March 24, 1989. The so-called Valdez Principles were formulated by the Coalition for Environmentally Responsible Economies to function as a corporate self-governance code on environmental conduct. The enforcement of the Valdez Principles, which are entirely based on voluntary action, is meant to be social conscience, i.e., a trait of ethics which may well turn out to be fruitful investment. See further Amato, A.L., 1989.

[890] See generally Baram, M.S., 1990, pp. 65-88.

operators of hazardous installations to public authorities, and from public authorities on to the public at large.[891] In contrast to the U.S. system, the Seveso Directive does not provide for direct risk information to be relayed from operators to the public. Article 8(1) of the Directive reads:

> Member States shall ensure that persons liable to be affected by a major accident originating in a notified industrial activity [...] are informed in an appropriate manner of the safety measures and of the correct behaviour to adopt in the event of an accident.

After the industrial accident at Basel in 1986, the Commission of the EC proposed a second amendment to the Directive, providing for the active communication of hazard information through various media that reach the members of a community, that is, leaflets, televised information, etc. Annex VII, which was introduced by the second amendment, specifies the contents of the risk information. These include the potential effects of accidents, characteristics of the involved substances, details on actions to take in case of an accident, information on warning systems, on-site and off-site emergency plans, and details on how further information would be relayed in case of an accident.[892]

In contrast to the EPCRA system in the United States, the Seveso Directive offers more of what has been described as a "need to know" than a "right to know" approach.[893] This means that information is provided for the effective response to accidents in accordance with existing emergency plans. This narrower EC scheme does, however, not function as a replacement of expert advice and regulation by national authorities, but as a supplement to

---

[891] Council Directive of 24 June 1982 on the Major Accident Hazards of Certain Industrial Activities, 82/501/EEC, O.J. L230/25 (1982), Cited as the Seveso Directive; 1st amendment 87/216/EEC of 19 March 1987 mainly clarified entries and threshold levels in the Annexes; 2nd amendment 88/610/EEC of 24 November 1988, *OJ* L 336 07/12/88, p. 14, see text above; 3rd amendment 91/692/EEC of 23 December 1991 replaced Article 18 on reporting of implementation of the Directive; On the development of the issue, see also Council Directive of 18 September 1979 Amending for the Sixth Time Directive 67/548/EEC on the Approximation of the Laws, Regulations and Administrative Provisions Relating to the Classification, Packaging and Labelling of Dangerous Substances, 79/831/EEC.

[892] Generally, see Kiss, A., & D. Shelton, 1993, p. 495. On difficulties in national implementation of the Seveso Directive, see Wynne, B., 1990, pp. 89-107; and Barratt , R. and H. Enmarch-Williams, 1994, p. 196. On France and the Seveso Directive, Vallauri, J-P, 1989, pp. 293-299; and see Report on the application in the Member States of Council Directive 82/501/EEC of 24 June 1982 on the major-accident hazards of certain industrial activities for the period 1994-96, *OJ* C 291, 12.10.1999, pp. 1-48.

[893] See Baram, M.S., 1990, pp. 67-68.

it. Unlike the EPCRA, the Seveso Directive requires thorough risk analyses of specific undertakings, thus imposing broader duties on national authorities.

The new "Seveso II" Directive substantively enhances the legal situation on several issues.[894] In addition to a provision on accident information from one state to another ("first phase" information duty, as referred to in Chapter 2) the public's access to environmental information is, in Article 13, phrased as follows:

> Member States shall ensure that information on major accident hazards, safety measures and requisite behaviour in the event of an accident is supplied, without their having to request it, to persons liable to be affected by a major accident [...] and to any natural or legal person who so requests, without the latter being required to demonstrate a legitimate interest.

Still in the realm of emergencies, the OECD developed norms in 1988 on the access of the public to environmental information.[895] Very similar in content to the first EC Seveso Directive, the OECD Council Decision recognized that the potentially affected public has a right to be provided with information about the risks of hazardous installations.[896] Essentially focused on prevention, the Decision deals both with information meant to provide knowledge about emergency preparedness and information meant to facilitate public participation in decision-making on the siting and licensing of hazardous activities. The latter kind of prior information about private sector industrial undertakings can usually be gained by the state via licensing and EIA obligations. The Decision sets out the criteria for the former kind of preparedness information in stating that it should be timely, comprehensible, re-issued periodically and updated. The Decision does, however, leave some ambiguity as to who should give the information to the public, that is, the operators of installations or the public authorities after receiving relevant information from the operators. No special request of information is required by the public, it shall be furnished automatically. As the information relates particularly to educating the public on how to

---

[894] "Seveso II", Directive 96/82/EC of 9 December 1996, in force 3.2.1997, replaced the original Directive and was mandatory at the latest as of 3.2.1999. Further see Barratt, R. and H. Enmarch-Williams, 1994, pp. 195-199.

[895] See generally Smets, H., 1989, pp. 16-19 and Smets, H., 1991, pp. 449-456, 462-467.

[896] Council Decision-Recommendation concerning Provision of Information to the Public and Public Participation in Decision-Making Processes related to the Prevention of, and Response to, Accidents Involving Hazardous Substances, 687th session, 8.7 1988. C(88)85(Final). Does not include military installations or civilian nuclear installations.

respond in case of an accident, particularly the following are considered important: details on how the potentially affected public will be warned in the event of an accident; details of the actions and behaviour the potentially affected public should take in the event of an accident; and the source of post-accident information (e.g., radio frequencies). The Decision further provides for the protection of confidential information relevant for, *inter alia*, national security, as defined by national law.

An interesting forerunner in access to environmental information is the Nordic Environmental Protection Convention of 1974.[897] In many ways an unusual treaty, the Nordic Convention opened the way for *transboundary access* to environmental information in a rather curious way. The text does not expressly mention any individual right of access to information, but in granting equal access to judicial and administrative proceedings in another contracting state, it *indirectly* acknowledged some means of receiving information to individuals affected or potentially affected by a nuisance caused by environmentally harmful activities in another state. The right includes the possibility to bring before a court or administrative authority in another contracting state the question of permissibility of an activity, including the question of measures to prevent damage, and to appeal against the decision to the same extent and on the same terms as a legal entity of the state in which the activities are carried out. This is thus a far cry from a general right of access to environmental information without having to prove an interest. It is nonetheless a strong manifestation of a culture of openness and equality, possible already in the 1970s because of its centuries old roots in the relatively homogenous Nordic countries. Well within this tradition, the Convention also includes a provision (Article 7) under which a state's supervisory authority "if it finds it necessary on account of public or private interest" shall publish communications from another state's court or administrative authority "in the local newspaper or in some other suitable manner". This again would fulfil some elementary public information requirement on the national level.

---

[897] Nordic Convention on the Protection of the Environment, Stockholm, 19.2. 1974, in force 5.10.1976; See generally, Phillips, Ch. 1986, p. 155-; Broms, B., 1986, p. 141-; Brunnée, J., 1988, pp. 171-174; and see Lappe, M., 1993, for an assessment of the Convention in relation to German environmental law; Further, Sand, P.H., 1999, p. 276. And see also Wolfrum, R. & C. Langenfeld, 1999 for some references to the Convention and liability issues; The equal access principle has been included in some later treaties, see e.g. the ECE 1992 Industrial Accidents Convention, Article 9(3). See *infra* Ch. 4.3.III.V.

An early "generation" of treaties did not mention access or let alone public participation, but at best co-operation and exchange among parties of scientific, technical and statistical information.[898] An example of this would be the 1985 Vienna Convention for the Protection of the Ozone Layer (Article 4) and the subsequent Montreal Protocol,[899] which adds a general provision on co-operation in promoting public awareness of substances that deplete the ozone layer (Article 9). The Biodiversity Convention is also a case in point. The CBD does not contain any access rights language. Public participation is mentioned only, but importantly, in the context of environmental impact assessment procedures (Article 14(1)(a)). On the other hand, it stresses public education[900] and awareness training and exchange of scientific and other information, presumably among parties only.[901] The educational approach is very valuable indeed, but quite different from the later access-based one, and the two ought to be complementary, not exclusive of each other. However, later treaties' access-provisions tend not to be followed by education-provisions.

Another example of a very restrictive view of public information is found in the 1991 Alpine Convention, which under Article 4 requires parties to "establish an appropriate program of public information on the results of research and observations as well as on

---

[898] E.g. the Convention on the Protection of the Black Sea Against Pollution, Bucharest, 21.4 1992, entry into force 15.1 1994; Cf. LOSC, Articles 200, 204 and 205.

[899] See generally Ott, H., 1991, pp. 188-208.

[900] According to CBD Article 13 on Public Education and Awareness the Contracting Parties shall:

(a) Promote and encourage understanding of the importance of, and the measures required for, the conservation of biological diversity, as well as its propagation through media, and the inclusion of these topics in educational programmes, and

(b) Cooperate, as appropriate, with other States and international organizations in developing educational and public awareness programmes, with respect to conservation and sustainable use of biological diversity.

[901] Article 17 on Exchange of Information provides that:

1. The Contracting Parties shall facilitate the exchange of information, from all publicly available sources, relevant to the conservation and sustainable use of biological diversity, taking into account the special needs of developing countries.
2. Such exchange of information shall include exchange of results of technical, scientific and socio-economic research, as well as information on training and surveying programmes, specialized knowledge, indigenous and traditional knowledge as such and in combination with the technologies referred to in Article 16, paragraph 1. It shall also, where feasible, include repatriation of information.

This is a type of state-to-state information exchange, quite in the category of "first phase" exchanges discussed above in Chapter Two. The reference to "from all publicly available sources" hardly broadens the provision, but gives states a basis for excluding some data. It is thus a "first-phase" information exchange requirement, with only indirect bearing on individuals' or groups' access to environmental data.

measures taken". International NGOs are to be cooperated with "to the extent that such cooperation contributes to the efficacious application of the present Convention".[902] To safeguard the administrative and legal traditions of several of the parties to the Convention, these provisions are followed by the restriction that the "publication of information shall be applied with respect for national laws regarding confidentiality. Information designated confidential shall be treated as such".

The Nordic Convention, the OECD Decision and several of the treaties just mentioned mesh well with the Principles and Guidelines on Rights and Obligations Related to the Environment that the UN Economic Commission for Europe developed in preparation for the UNCED in June 1992.[903] The ECE Guidelines state, for instance, that:

- Competent authorities should provide individuals, groups and organizations access to information relevant to the environment, held by those authorities[...]
- Competent authorities should make available, and encourage industries to make available, information about potentially serious impacts of industrial accidents, including information on contingency planning, and give information to the public immediately when such accidents occur.
- Competent authorities should make available at regular intervals reports on the state of the environment.
- Competent authorities should facilitate and encourage public participation, [i.a.], by providing wide notification to the public, making information widely available, convening open fora and receiving written views.

These Guidelines offered a wide framework for the development on the global level of the public's access to environmental information. Agenda 21 incorporates the equivalent

---

[902] Convention on the Protection of the Alps, Salzburg, 7.11.1991, in force 6.3.1995. Generally, see S. Warsinsky, "Notes on the Alpine Convention", www.mtnforum.org.

[903] See also WCED, Experts Group on Environmental Law, *Environmental Protection and Sustainable Development*, 1987, Articles 6 and 15; The follow-up process to the initial Experts Group Report included, i.a., the adoption of the Bergen Ministerial Declaration on Sustainable Development in the ECE Region, 16.5.1990. It elaborated upon the theme Awareness Raising and Public Participation (Article 16(a-j)) where it mentions the objective "to stimulate national and international exchanges of environmental information" (Article 16(c)) and to "develop further national and international systems of periodic reporting of the state of the environment"(Article 16(e)). One of the many outcomes of the entire follow-up process was (on the initiative by the Netherlands and Norway in October 1990) the Draft ECE Charter on Environmental Rights and Obligations, ENVWA/R.38. At an *ad hoc* meeting at the Hague in July 1991 the Draft became the above cited ECE Draft Document on Principles and Guidelines on Rights and Obligations Related to the Environment: Awareness Raising and Public Participation, 5.7.1991, ENVWA/AC.7/2.

objectives in a truly "soft" form.[904] In Principle 10, the Rio Declaration deals with access to information in general language, and without express mention of rights:[905]

> Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.

Although a step towards a procedural right to environmental information, the Rio provision is still flawed. It clearly does not intend to cover information access in a transboundary context, and the text does not define what "appropriate" access might entail. The Johannesburg Plan of Implementation goes no further: it only elaborates upon access at the national level. On the other hand, the Plan mentions that states should ensure access both to environmental information and to judicial and administrative proceedings in environmental matters.[906]

The United Nations Framework Convention on Climate Change, Articles 4(1)(i) and 6, combines an educational approach with an access and public participation approach. This is, however, only at the national or, "as appropriate", on the subregional or regional levels. At the international level, there is only an obligation to cooperate in and promote the development and exchange of educational and public awareness material and to implement

---

[904] UNCED, Agenda 21, Rio de Janeiro 3-14.6.1992. A/CONF.151/4. Part IV, pp. 29-31. See also Chapter 4.2.1. on the Experts Group of the WCED; And see Conference on Security and Co-operation in Europe (former CSCE, now OSCE), *Report on Conclusions and Recommendations of the Meeting on the Protection of the Environment*, Part I, Sofia Meeting on Protection of the Environment, CSCE/SEM.36, 2.11.1989, which confirms the right of individuals, groups, and organizations to obtain, publish and distribute environmental information; look at Bloed, A., 1993, pp. 413-423; *Cf.* to other soft law documents, e.g Cairo Guidelines and Principles for the Environmentally Sound Management of Hazardous Wastes, UNEP Governing Council Dec. 14/30, 17.6.1987, para. 20; The Hague Recommendations on International Environmental Law, 16.8.1991, para. 3; The Nuuk Declaration on Environment and Development in the Arctic, 16.9.1993, para. 6; UN GA, Programme for the Further Implementation of Agenda 21, para. 113; further on Agenda 21 and access to environmental information, see Bakkenist, G., 1993; and see IUCN Draft International Covenant on Environment and Development, 1995, Art. 12, para 3.

[905] See further A., 1996, p. 43; and Thornton, J. & S. Tromans, 1999, pp. 36-37.

[906] World Summit on Sustainable Development, Plan of Implementation, Article 119, Johannesburg, September 2002. See further Article 146: "All countries should also promote public participation, including throrough measures that provide access to information regarding legislation, regulations, activities, policies and programmes. They should also foster full public participation in sustainable development policy formulation and implementation. [...]."

education and training programmes on climate change. It is also noteworthy that the provision on access to information on climate change at the national or regional level is not phrased in terms of rights, but as an obligation of the parties, and further according to their national laws and within their respective capacities. The latter qualifications also apply to public participation. This is thus a rather weak manifestation of access to environmental information, but it well reflects the state of legal development of the issue at the time of the Convention's adoption during the Rio Conference in 1992.

d) Access "Short of Rights"

Indeed 1992 appears to have been a watershed year when it comes to stressing transparency and public awareness.[907] New, but less radical, conventions from that time refer to the importance of openness, but they still mention only the state's duty to inform the public, not the public's right of access. The 1992 Baltic Sea Convention is such a treaty where no rights language can be found.[908] Yet, it is also an example of a treaty under which substantive information work has been done through publications and, most recently, the Helcom website. It may thus serve as an example of an "early" concerted mechanism for relatively broad dissemination of environmental information.

In the 1996 Mediterranean Hazardous Wastes Protocol,[909] Article 12 on information to and participation of the public states that:

> 1. In the exceptional cases in which transboundary movement of hazardous wastes is permitted under Article 6 of this Protocol, the Parties shall ensure that adequate information is made available to the public, transmitted through such channels as the Parties deem appropriate.
>
> 2. The State of export and the State of import shall, in accordance with the provisions of this Protocol and whenever possible and appropriate, give the public

---

[907] But see e.g. 1994 Nuclear Safety Convention for an example of a new convention with no reference to transparency, openness or public access to information. It merely mentions appropriate information to a state's own population and competent authorities for emergency planning and response (Article 16(2)).

[908] See Article 17 on Information to the Public and see Preamble: "Conscious of the importance of transparency and public awareness as well as the work by non-governmental organizations for successful protection of the Baltic Sea Area".

[909] Protocol on the Prevention of Pollution of the Mediterranean Sea by Transboundary Movements of Hazardous Wastes and their Disposal, Izmir, 1.10.1996, not in force.

an opportunity to participate in relevant procedures with the aim of making known its views and concerns.

Typically, the information provision is reasonably strong, although phrased as a state duty, rather than as a right of access. In contrast, the public participation provision is strongly, perhaps completely, watered down. The aim of public participation is not decision-making, but merely the voicing of "views and concerns", and when "appropriate" at that. This is discouraging; but has to be seen against its background: the Mediterranean Convention parties represent a wide spectrum of social and political systems and economic development, and this must be taken to imply that already the information provision may have been radical enough for many states, and the public participation idea just too much of a promise.

Some of the most developed public participation schemes are found in treaties and other documents related to accidents.[910] It appears to be the easiest context in which to introduce public decision-making procedures, probably because of the rather narrow subject matter at hand, that is contingency planning and various mitigation and rescue operations if an accident happens.[911]

Public participation in decision-making related to contingency planning is however not always desirable. Public knowledge of safety plans, procedures, shelters, safe water, etc.

---

[910] But *cf.* Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, Paris, 14.10.1994, entry into force 26.12.1996, esp. Article 3(a) and (c), which is an elaborate example of a public participation provision outside contingency planning.

[911] Code of Conduct on Accidental Pollution of Transboundary Inland Waters, 1990, Economic Commission for Europe, E/ECE/1225-ECE/ENVWA/16, Article 7:

> 1. In order to promote informed decision-making by central, regional or local authorities in proceedings concerning accidental pollution of transboundary inland waters, countries should facilitate participation of the public likely to be affected in hearings and preliminary inquiries and the making of objections in respect of proposed decisions, as well as recourse to and standing in administrative and judicial proceedings.
> 2. Countries of incident should take all appropriate measures to provide physical and legal persons exposed to a significant risk of accidental pollution of transboundary inland waters with sufficient information to enable them to exercise the rights accorded to them by national law in accordance with the objective of this Code.

See also Article III(f) of the International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Damage, Brussels, 29.11.1969, in force 6.5.1975. This early convention speaks of notifications on pollution prevention measures taken on the high seas and which are to be done also to "known physical or corporate persons concerned".

may be reassuring, but it also makes society more vulnerable to sabotage and terrorism. It is something of a paradox, that while industry is protecting itself more and more rigorously against intrusions into production and safety, public authorities are opening up. Future developments in terrorism, especially in the use of biological and chemical weapons, could radically come to reverse this development.

The ECE has for some time now been an important - perhaps, along with the EU, the most important - international/regional forum for advancing the principle of a right of public access to environmental information and public participation. Apart from the 1992 Guidelines mentioned above, the ideas started taking shape in the Convention on Environmental Impact Assessment in a Tranboundary Context, where Article 3(8) requires that the parties "ensure that the public of the affected Party in the areas likely to be affected be informed of, and be provided with possibilities for making comments or objections on, the proposed activity".[912] The EIA Convention also furthers the principle of public participation when it says in Article 2(6) that:

> The Party of origin shall provide, in accordance with the provisions of this Convention, an opportunity of the public in the areas likely to be affected to participate in relevant environmental impact assessment procedures regarding proposed activities and shall ensure that the opportunity provided to the public of the affected Party is equivalent to that provided to the public of the Party of origin.

This principle of equality between potentially-affected people could of course be said to imply only a minimum standard as the level of participation-rights in the party of origin may be very low indeed.

Adopted one year later, the Helsinki Convention on Transboundary Watercourses and International Lakes also embraces the idea of public information (Article 16). Its information provisions are more detailed than those in the EIA Convention, providing *inter alia* for availability free of charge. The public information principle is further specified in

---

[912] Convention on Environmental Impact Assessment in a Transboundary Context, Espoo, 25.2.1991, in force 10.9.1997; And see generally on development within the ECE: Draft ECE Charter on Environmental Rights and Obligations, Proposal by the delegations of the Netherlands and Norway, 14.12.1990, ENVWA/R.38; Draft Document on Principles and Guidelines on Rights and Obligations Related to the Environment: Awareness Raising and Public Participation, 5.7.1991, ENVWA/AC.7/2.

the 1999 Protocol on Water and Health.[913] Interestingly enough, the Protocol in Article 5(i) motivates (and now uses the term) information access and public participation as a *quality need*:

> Access to information and public participation in decision-making concerning water and health are needed, *inter alia*, in order to enhance the quality and the implementation of the decisions, to build public awareness of issues, to give the public the opportunity to express its concerns and to enable public authorities to take due account of such concerns. Such access and participation should be supplemented by appropriate access to judicial and administrative review of relevant decisions;

The Protocol also stresses the enhancement of the awareness of the public of its rights and entitlements to waters, as well as its moral and other obligations to contribute to the protection of water and the conservation of water resources (Articles 5(m) and 9(b)). Other than this, the Protocol is, in Article 10 on public information, more exact than the Convention both in defining the content of information to the public and the exceptions to such information, both to be made available/denied within the framework of national legislation. Although adopted as recently as 1999, the Protocol does not speak of access rights. Neither does, more understandably, the EIA Convention, the Watercourses Convention itself nor the ECE Industrial Accidents Convention of 1992.[914] The latter (referred to above in Chapter 2) is mostly concerned with accident and emergency preparedness information to the public – also in a transboundary context – but it explicitly refers to the obligation of the country of origin of a possible accident to give the affected public (whether in its own country or another party) an opportunity to participate in "relevant procedures" with the aim of making known its views and concerns on prevention and preparedness measures (Article 9(2)). Just as in the case of the EIA Convention, this is rather vague, but nonetheless a noteworthy legal development.

[913] Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Helsinki, 17.3.1992, in force 6.10.1996; Protocol on Water and Health, London, 17.6.1999, not in force.

[914] Convention on the Transboundary Effects of Industrial Accidents, Helsinki, 17.3.1992, in force 19.4.2000.

4.2.2. Contents

Extent of Rights

By way of summary of the above examination of states' duties to disseminate environmental information and individuals' access "short of rights", at least the following types of contents and limitations seem to apply:

Firstly, the evolution of this legal theme has not varied dramatically between the different sub-areas of environmental law, that is, the different environmental media.

Secondly, and instead, a clear division is found between narrow access to contingency planning and accident-related information on the one hand, and other broader and more general data on the state of the environmental on the other hand. This runs parallel with and underlines the conclusion in Chapter 2 on state-to-state accident information duties, that accident situations are the most solidly anchored part of state commitments to share environmental information.

Thirdly, individual access to environmental information can be understood in terms of *extent*. First, there is the crucial distinction between dissemination of, or access to, documents or general environmental information. While the former may be very specific, the latter otherwise implies much broader access to information. Most environmental treaties speak broadly of "information" dissemination or access, not documents. Second, access can be either passive or active: the dividing line between what is a state duty to inform (related to a "first phase" or "second phase" information exchange requirement) and what is a right of access ("third phase") is sometimes difficult to draw when legal norms speak of "access" but only provide for mechanisms of relaying information to the public, not for the public's ways of acquiring information for themselves. As seen in the above examples, most environmental treaties still include only state duties to disseminate information, and some include access rights that fall short of explicit individual rights-language. This is relevant for a third way of understanding extent, namely that it would be forced to draw, on the basis of the above, any far-reaching conclusions about the extent of existence in general international law of individual access to environmental information. This question is briefly returned to below in relation to the possible weight – or exception-offered by the Aarhus Convention.

Finally, the contents and extent of development of participation rights under the multilateral environmental treaties discussed above are remarkable manifestations of a "new" topic under the environmental theme, but they are far from unrestricted. Existing provisions are circumscribed by lack of indications of the concrete meaning of participation, and by frequent inclusion of restrictive language referring to national measures "as appropriate". Nonetheless, the participation provisions are usually connected to information provisions, and they underline, despite their weaknesses, the idea that transparency and openness can be related to accountability, a theme further returned to below.

Exceptions

Treaty-based duties to disseminate and give access are usually attached with some exceptions. The exceptions could include information that compromises, or poses a risk of compromising, national defence, public security, international relations, environmental security (i.e. material which could lead to environmental damage if disclosed), matters *sub judice,* commercial and industrial confidentiality, intellectual property, the confidentiality of personal data, the confidentiality of proceedings, and material by third parties without those parties being under obligation to give out information. This list gives a very rough order of frequency, and other additional considerations of confidentiality could be included. It is clear, however, that none of the treaties above impose unrestricted obligations for states to disseminate to or give access for individuals to environmental information.

Explicit Rights of Access to Environmental Information

Only a few newer conventions from the early 1990s onwards take the full step of explicitly bringing in the rights aspect.[915] Such a step was taken under the Council of Europe's 1993 Lugano Civil Liability Convention, which is, however, not yet in force.[916] The Lugano Convention is interesting in that it mentions both access to environmental information held by public authorities and access to specific information held by operators, i.e. other private

---

[915] It is noteworthy that the 1986 IAEA Notification Convention failed to introduce any right of public access to environmental information, and that the 1986 IAEA Assistance Convention explicitly requires an assisting state to co-ordinate with a requesting state before releasing information about assistance given after a nuclear accident, see Art. 6(2).

[916] Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment, Lugano, 21.6.1993, not in force; See generally, Sands, P., 1995, pp. 619-620.

parties. The first (Article 14) is specified to mean access without a need to prove an interest, and it is followed by an explicit list, very similar to forerunning treaties, of situations were access may be restricted: i.a. the confidentiality of proceedings, international relations, national defence, public security, matters *sub judice*, commercial and industrial confidentiality, intellectual property, the confidentiality of personal data, material by third party without that party being under obligation to do so, or material which could lead to environmental damage if disclosed. A person who has been refused information should have the right to seek judicial or administrative review of the decision. The second (Article 16) is specified to cover access to information, which is necessary to establish the existence of a claim for compensation under the Convention. A person who suffered damage may thus request the court to order an operator to provide specific information, and an operator may do the same vis-à-vis another operator. The same restrictions apply as under a person's access to information held by public authorities, and an operator may refuse to provide information where it would incriminate him.

The 1992 North East Atlantic Convention also establishes a kind of right of access to environmental information in relation to the maritime area in question.[917] It goes about it in an indirect manner, however: according to Article 9, parties must ensure that their competent authorities are required to make available information to any natural or legal person who makes any reasonable request and without that person having to prove an interest, without unreasonable cost and as soon as possible and at the latest within two months. The list of exceptions is similar to that in the Lugano Convention, and the reasons for a refusal to give information must be given. Thus, the content of the *state duty* is as clearly established as under several other treaties, but it is never phrased as an individual "right" of access although the text concretely speaks of requests, costs, etc.

It was not until the adoption under the auspices of the ECE in 1998 of the Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, however, that a clear right of access to environmental information was created on a *regional* level.[918] As a parallel development, important steps

---

[917] Convention for the Protection of the Marine Environment of the North East Atlantic, Paris, 22.9.1992, in force 25.3.1998; See also especially the Convention for the Protection of the Marine Environment of the North East Atlantic, Paris, 22.9.1992, in force 25.3.1998

towards greater transparency and openness were taken within the European Union. The similarities and differences in emphasis between these legal developments, their evolution and contents, including exceptions, shall serve as basis for an exploratory discussion below about the possible functions and problems of access and participation rights for the development of international environmental law.

***

4.3. *Information in Perspective 3:* Potential for a New Ethic? EU and ECE Viewpoints

I. Introduction

The method of resorting (in Chapters 2 and 3) to a case-study/treaty-study to underline the particular context or circumstances of a legal problem or treaty development in itself underlines the pragmatic, functionalist and state practice-centred managerial spirit. The issue of state responsibility for a failure to inform about environmental danger was considered in the context of legal developments after the Chernobyl accident, and various forms of supervisory information exchanges were considered *vis-à-vis* the particular issue of waste trade and from a geographic perspective in order to discuss some of the numerous intricate dividing lines present in international environmental law today. The "context" or surrounding state of affairs for the Aarhus Convention is precisely the roles, the strengths

[918] Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, Aarhus, 25.6.1998, in force 30.10.2001; See generally, Brady, K., 1998; Economic Commission for Europe: *The Aarhus Convention. An Implementation Guide*, New York/Geneva, 2000; 'La Convention d'Aarhus', Numéro special, *Revue Juridique de l'environnement*, 1999.

and the weaknesses of state information duties and the whole managerial attitude tc information and environmental protection in international environmental law, as discussed in the chapters above, and the fact that new enforcement methods are still far away. Thus as the discussion shifts to the public's rights of access to information, the perspective remains context-specific in a geographic/cultural sense,[919] but also moves on to some of the more aspirational themes present in a "new ethic" or "culture of openness".

II. Towards Rights of Access to Information and Participation

II.I. Under the ECE Aarhus Convention

"The challenges related to the full implementation of this Convention are so exciting and rewarding that we can envision this task as a historic mission." So said one of the fathers of the Convention, Mr. Bärlund of the Environment and Human Settlements Division of the ECE, when addressing an NGO session at Aarhus.[920] Furthermore, Kofi Annan, the UN Secretary General, has said that "[a]s such [the Aarhus Convention] is the most ambitious venture in the area of 'environmental democracy' so far undertaken under the auspices of the United Nations". However, Mr. Bärlund also foresaw problems such as administrative inertia and even resistance from those who find the Convention contrary to their interests. The Aarhus Convention surely has been met by strong reactions for and against, both among states and organizations. On the negative side, there are governments that see the Convention as a manifestation of Northern interests against sustainable development and organizations that believe the Convention could seriously damage their interests, such as stopping investments.[921]

---

[919] Outside of the Western/European context the only examples of more strongly developed environmental openness are probably found on micro-level, that is, in small traditional communities with democratic traditions i.e. situations where everyone simply knows what is going on in their immediate environment.

[920] "We are about to take a great leap in international cooperation for a better environment, for openness and democracy." Statement by Mr. Kaj Bärlund, Director of the Environment and Human Settlements Division of the United Nations Economic Commission for Europe, at the NGO session at the Ministerial Conference "Environment for Europe" in Aarhus, Denmark, 24.6.1998. http://www.unece.org/press/98env14e.htm

[921] As an example of a reaction against the Convention is the fear voiced by Metalliliitto, a Finnish union for metal industry workers, that the Convention's complaints procedures might stop investments and that those organizations or individuals starting procedures on false grounds are not held responsible for economic losses due to such process, *Helsingin Sanomat*, 28.3.2001.

The Aarhus Convention's most remarkable achievement, even before its entry into force in late October 2001, was to have brought the idea of an individual right of access to environmental information to the mainstream rhetoric of environmental policy and law. The Convention marries environmental rights to human rights and it links government accountability to environmental protection. Its second achievement stems from the membership of the organization under whose auspices the Convention was elaborated and signed by 39 states and the EC: the Convention now covers not only western and central Europe but several former Soviet states in Central Asia, making for a situation where many different legal systems are confronted with the aims of access to environmental information and public participation.

There was considerable plurality among the participants to the treaty development process: a coalition of NGOs participated in the drafting of the text alongside the participating states. Not surprisingly, the role of NGOs is as strong also in the treaty itself, with rights under Article 10 to participate as observers in the Meetings of the Parties.[922] Observer status is based on two criteria: first, the organization has to be qualified in the fields to which the Convention relates, that is access to information, public participation in decision-making and/or access to justice in environmental matters; second, the organizations must notify the treaty Secretariat that it is seeking observer status. One third or more of the parties present can raise objections and prevent observer status. The legal basis is broad, the process seems to have a low threshold, and it remains to be seen how the first criterion will be interpreted now as the Convention has entered into force. These developments inside the treaty are important for the continuous review of state behaviour ("second stage" supervisory information exchanges and outside "control over the control"), and this open attitude towards NGOs continues the trend begun with CITES in 1973 to broaden participation inside environmental treaty systems.[923]

---

[922] See Guidelines on Access to Environmental Information and Public Participation in Environmental Decision-Making, endorsed by the Third Ministerial Conference "Environment for Europe", 23-25 October 1995, Sofia; and see Resolution on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, submitted by the Ad Hoc Preparatory Working Group of Senior Officials, Aarhus, Denmark, 23 -25 June 1998 at the Fourth Ministerial Conference "Environment for Europe". The Fifth Ministerial Conference will be held in Kiev, Ukraine in May 2003.

[923] See especially Article 11(7) of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), Washington, 3.3.1973, entry into force 1.7.1975; see also the Convention on the Conservation of European Wildlife and Natural Habitats, Berne, 19.9.1979, entry into force 1.6.1982; the

The main provisions of the Convention are interesting contributions to international law. Firstly, the Convention mentions, in Article 1, the right of every person of present and future generations to live in an environment adequate to his or her health and well-being, and, in the Preamble, the duty, both individually and in association with others, to protect and improve the environment. In order to contribute to the protection of this right, the parties shall guarantee the rights of access to information, public participation in decision-making, and access to justice in environmental matters (Article 1).[924]

The Convention is primarily aimed at influencing legal development on the national level. In fact, the treaty text is somewhat unclear as to the transboundary aspects of access and participation. It defines "public authorities" as a) "government at national, regional and other level"; b) "natural and legal persons performing public administrative functions under national law, including specific duties, activities or services in relation to the environment"; c) "natural and legal persons having public responsibilities or functions [...] under the control of a body or person falling within subparagraphs (a) or (b) above". The definition further includes the institutions of the EC and excludes bodies acting in a judicial or legislative capacity. Article 2 goes on to define "the public" as natural or legal persons, and, in accordance with national legislation or practice, their associations, organizations or groups". This latter definition could presumably then entail members of the public in another country, but only as defined first by national law. Article 2 states that "the public concerned" means the "public affected or likely to be affected by, or having and interest in, the environmental decision-making". Article 2 also says that NGOs promoting environmental protection and "meeting any requirements under national law" shall be deemed to have "an interest" in the environmental decision-making and thus be part of the "public concerned". These definitions do not expressly exclude the public in another state or an international NGO. Perhaps oddly, the definitions do not expressly mention them

---

Vienna Convention for the Protection of the Ozone Layer, 1985; the Basel Convention on Hazardous Wastes, 1989; the Climate Change Convention, 1992.

[924] See Ebbesson, J., 2002, p. 1, who writes that "the term 'right' is generally avoided" in the Convention, although "the objective, structure and context of the Aarhus Convention are rights-oriented. In part, the Convention draws on notions of international human rights law. It is intended to provide for participatory, informational and procedural rights in environmental matters, and a failure to do so implies a breach of the treaty". Ebbesson argues that the Convention fails to establish a "firm basis" for an "environmental right to know". It is not clear what he means by such a right to know, but he bases his argument on the weakness of states' dissemination duties, particularly the vagueness of the practical obligation to establish a register for environmental data.

either, but this must be taken as an indication of the limits of how far the states parties were willing to go.

Article 4 deals with access to environmental information. It expressly uses the broad term "information", and imposes upon the parties' public authorities to make information available on request, including copies of the actual documentation containing or comprising such information. This very distinction between information and documents makes the Convention broad in scope. The practical implementation of the rule on access is to be done a) without an interest having to be stated; b) in the form requested (unless it is reasonable to make available in another form or the information is already publicly available in another form); and c) within one month after the request has been submitted (unless volume and complexity justify extension up to two months). A request may also be refused on formal or a number of substantive grounds, but it expressly only "may", not "shall", be refused in the following cases: *inter alia*, if the public authority does not hold the information requested (the applicant should then be informed and the request be transferred to another authority); if the request is manifestly unreasonable or formulated in too general a manner; if the request concerns internal communications of public authorities where such an exemption is provided for in national law or customary practice; if disclosure would adversely affect the confidentiality of the proceedings of public authorities, international relations, national defence, public security, the course of justice, trials, criminal enquiries, commercial or industrial information, intellectual property rights, the confidentiality of personal data, the interests of a third party, or the environment to which the information relates. The grounds for refusal must be interpreted in a restrictive way, taking into account the public interest served by disclosure, and, importantly, information on emissions that is relevant for environmental protection shall be disclosed.[925] According to Ebbesson, the provision on restrictiveness in refusals does not do away "with the risk for misused discretion in order to avoid disclosure", because some of "the interests are so generally defined that the risk of self-serving auto-interpretation is apparent".[926] Information should also be made available partially, if it can be done without prejudice to the confidentiality of the information covered by the exemptions. Refusals shall be in

[925] Generally on incentives of secrecy, and how rules on transparency may lead to less documentation, and further on exceptions to openness, see Stiglitz, J., 1999.

[926] Ebbesson, J., 2002, p. 2.

writing if the application was in writing or if the applicant so requests. The reasons for refusal shall be stated and information about the review procedure given. Also a refusal shall be given within one month, or within two months if the application justifies an extension of up to two months. Finally, parties may allow their public authorities to make *reasonable* charges for supplying information.[927]

The Convention does not prevent in any way parties from having rules for broader access or fewer restrictions to disclosure (Article 3(6)). Under Article 5, parties shall ensure that there are "mandatory systems" of information "flow" to public authorities on proposed and existing activities that may significantly affect the environment. Article 5 also includes a provision on "first phase" environmental information:

> In the event of any imminent threat to human health or the environment, whether caused by human activities or due to natural causes, all information which could enable the public to take measures to prevent or mitigate harm arising from the threat and is held by a public authority is disseminated immediately and without delay to members of the public who may be affected.

This is a strong provision in the sense that it speaks of threats, not only accidents that have already happened. It seems at first odd that such a "first phase" information duty should be needed within the Aarhus Convention, but, as the Convention's extent unfolds, it is only natural that the most basic kind of information exchange requirement is mentioned, especially as a reminder for those states that are not yet parties to too many environmental treaties. Unfortunately, the Convention does not refer to the duty as part of general international law. This is a chance missed, but it does not weaken the duty; to the contrary, the reiteration strengthens the argument that duty exists in general international law.

Article 5 further elaborates, in relatively soft language, upon the practical ways in which environmental information is to be disseminated to the public. It requires states to provide for information on how and from whom environmental information can be acquired, but it does not mention whether such arrangements should be centralized or whether there should

[927] On unreasonable charges, e.g. a public debate arose in Finland in January 2002 over excessive charges (38 000 FIM, 6 300 euro) by the Bank of Finland for photocopies requested by an investigative television programme of notes over the Bank's internal expenses, see e.g. *Hufvudstadsbladet* 16.1.2002, pp. 1, 6. On the other hand, there are situations where the argument against all charges is valid; see Alston, P, 2001, pp. 351-358, about the UN Secretariat's decision to charge other than the UN's own, or governmental or diplomatic users for hefty fees for access to its official electronic database of treaty information.

be many parallel ways of making this known. The environmental information itself should then be found in publicly accessible lists, registers and files; officials are required to support the public in seeking access to information; points of contact must be identified; and more and more information is required to be made available in electronic databases which are easily accessible. Electronically-accessible information should include, *inter alia*, reports on the state of the environment (but it remains unclear what data such reports ought to include, e.g. in relation to what activities and processes, environmental media, substances and releases, etc.); texts of legislation on the environment; policies, plans and programmes on the environment; and environmental agreements. Parties shall also *progressively* establish pollution inventories, which are coherent, nationwide, computerized and publicly accessible (Article 5(9)), and they shall develop mechanisms for product information enabling informed environmental choices (Article 5(8)).

Interestingly, Article 5 also includes a requirement for states to publish and disseminate at regular intervals (not exceeding three or four years) a national report on the state of the environment. The report should include information on the quality of the environment and information on the pressures on the environment. This is either a basic "first stage" dissemination duty, or then it is a kind of "second stage" information requirement, but where the addressees are now the public, not the treaty body or other state parties. A new *national reporting obligation* is imposed by international law. It is "supervisory" in the sense that the public naturally becomes the reviewers of the contents. Here the Aarhus Convention is again true to its cause, to widen the accessibility to environmental information in order to provide a basis for larger participation, that is to activate, not just make noise. Again, this remains to be seen, as the parties start implementing and hopefully complying with the Convention, and one of the crucial tests will then be the extent of freedom of expression and freedom of the press in a given country. A considerably weaker provision is found under Paragraph 6 where parties are to "encourage" operators whose activities have (not: may have) a significant impact (not: risk) on the environment to inform the public regularly of the environmental impact of the activities and products, for instance through voluntary eco-labelling or eco-auditing schemes. This is a somewhat surprising provision, considering the otherwise strong language of the Convention, and also considering the duties imposed on operators under some other treaties, for instance in the area of marine pollution.

In Article 6, the Aarhus Convention turns to public participation.[928] It is based on an Annex listing specific activities, the permission of which the Article is to be applied to. Parties may also, in applying national law, decide to apply Article 6 to activities not found in Annex I, and they may also decide *not* to apply Article 6 to activities serving national defence purposes. Annex I covers a wide range of activities within the energy sector, production and processing of metals, mineral industry, chemical industry, waste management, different industrial plants and several other activities. The public concerned shall be informed either by public notice (or "as appropriate" even *individually*) of a number of circumstances besides the proposed activity itself: the nature of possible decisions or the draft decision; the public authority responsible for making the decision; and the envisaged procedure, including its commencement, the opportunities for the public to participate, the time and venue of any envisaged public hearing, from which public authority information can be obtained, to which public authority comments or questions can be submitted and within what time, and what relevant environmental information is available. In addition, the public must be informed of the fact that the activity is subject to a national or transboundary environmental impact assessment procedure. All of this is to take place within reasonable time-frames for the different phases and early participation shall be provided for when "all options are open" and effective public participation can take place (Article 6(3) and (4)). The Convention also mentions that the Parties should encourage prospective applicants to enter into discussions with the public concerned already before applying for a permit (Article 6(5)).

Without prejudice to the exceptions mentioned in Article 4, the public concerned shall also be informed of a number of technical issues relating to the proposed activity, including the site and the physical and technical characteristics of the activity and an estimate of the expected residues and emissions; the significant effects of the activity on the environment; a description of the measures envisaged to prevent and/or reduce the effects and emissions; a non-technical summary of all of the above; an outline of alternatives by the applicant; and reports and advice issued to the public authority. The procedures for public participation shall allow the public to submit comments, information, analyses or opinions that it considers relevant to the proposed activity. This can be done in writing or at a public hearing or an inquiry.

[928] See further Ebbesson, J., 1997; and ibid., 2002.

Finally, Article 6(8) lays down that "[e]ach Party shall ensure that in the decision due account is taken of the outcome of the public participation". This provision is not without an absurd element as it should be self-evident that not mere theatre is to be created. Only the long-term practice of the parties to the Convention will show what reality is developed for "due account", and the extent of political will in the countries concerned. At any rate, the public is also entitled to prompt information about the decision taken by the public authority, along with the reasons and considerations on which the decision is based (Article 6(9)). The procedures of public participation apply *mutatis mutandis* to situations when a public authority reconsiders or updates the operating conditions for an activity (Article 6(10)).

In addition to these provisions on public participation relating to proposed activities, the Aarhus Convention also provides for participation in relation to plans, programmes and policies relating to the environment (Article 7) and during the preparation of executive regulations and/or generally applicable legally-binding normative instruments (Article 8). Neither of these articles include the level of detail that Article 6 on proposed specific activities does, and both have some soft language, which weaken the provisions. Under both articles, the public must be allowed a sufficient time-frame for effective participation while options are still open, and the public must have been provided with the necessary information or draft rules. Under Article 7, however, public participation in relation to *policies* is phrased in hortatory language: "To the extent appropriate, each Party shall endeavour to provide opportunities for public participation in the preparation of policies relating to the environment". Furthermore, under Article 8, the result of the public participation will only be taken into account "as far as possible".

The provisions under Article 9 on access to justice relate both specifically to the Convention's provisions on access to environmental information and to public participation relating to proposed activities and generally to access to justice to challenge acts and omissions by private persons and public authorities which contravene national law relating to the environment (Article 9(3)). Article 9(1) lays down that:

> Each Party shall, within the framework of its national legislation, ensure that any person who considers that his or her request for information under Article 4 has been ignored, wrongfully refused, whether in part or in full, inadequately answered, or otherwise not dealt with in accordance with the provisions of that article, has

access to a review procedure before a court of law of another independent and impartial body established by law.

In those countries which are to be most radically influenced by the Convention, it is likely that this paragraph on access to justice is at least as important as the primary provision on access to environmental information; but also in countries whose legal systems and traditions have long since accepted wide rights of access to information and documents, it serves to strengthen the effective application of the rights.[929] The same goes for Article 9(2), which provides for access to a review procedure before a court or other independent and impartial body established by law in situations of public participation relating to proposed activities. Members of the public concerned who either have a sufficient interest or, alternatively, who maintain impairment of a right (if the administrative procedural law of a party requires this as a precondition) under the Convention have a right to challenge the substantive and procedural legality of any decision, act or omission relating to Article 6. Under national law, the parties may also extend this right to other provisions of the Convention, perhaps even Article 7, but more likely Article 5(1)(c) on accident information or general provisions on dissemination.

What constitutes a sufficient interest or impairment of a right should, on the one hand, be determined on the basis of national law, but, on the other hand, it should also be consistent with the objective of the Convention to give the public wide access to justice. Under Article 9(2)(b), environmental NGOs would be deemed to have an interest and therefore access to justice as meant in the Convention.[930] Interestingly, the definitions in Article 2 state that NGOs promoting environmental protection and "meeting any requirements under national law" shall be deemed to have "an interest" in environmental decision-making and thus be part of the "public concerned".[931] This definition does not make any reference to other types of NGOs, for instance, industrial, agricultural other than "environmental",

[929] For example, in Finland ratification of the Convention does not require legislative amendments in relation to access to environmental information or public participation, but it will require greater access to justice in relation to a few Annex I activities such as certain projects related to power lines; gas, oil or chemical pipelines; certain railroad projects and nuclear power plants.

[930] See further Handl, G., 2001, p. 52 on access to justice and government accountability in environmental matters.

[931] For an example, see Finnish environmental legislation, which grants relatively wide rights of access to justice for environmental NGOs: paragraphs 92 and 97, Environmental Protection Act 86/2000 and para. 61, Nature Conservation Act 1096/1996; and see Administrative Judicial Procedure Act 586/1996.

fisheries, transport or the like. Possibly, in situations other than observer status, the Convention puts environmental NGOs in a better position as compared to other NGOs. Another interpretation for this definition is simply the intention to guarantee that environmental NGOs get a role under the Convention. There remains the endless question that motives of "environmental NGOs" may be just as doubtful from the perspective of environmental protection than those of any other interest group,[932] and that the entire issue is full of the risks of naïveté.

This last point is related to the fear among several interest groups that the Aarhus Convention's provisions on access to justice might lead to situations where process is misused, for instance to prolong final decision-making, and therefore counter-productive to many interests such as investment and ultimately to justice. It is also not always self-evident that, say, prolongation of a decision-making would be in the interest of environmental protection. The Convention mentions that the procedures shall provide adequate and effective remedies, including injunctive relief as appropriate, and be fair, equitable, timely and not prohibitively expensive. It does, however, not mention who should bear the costs of economic loss or other (for instance environmental) harm that arises in the course of process. This is a major problem, which has been voiced in opposition to the Convention by those who fear loss in investment,[933] but not so much by environmental groups although environmental protection should also include the reparation of harm that may, in theory at least, have been caused due to process. The problems arising out of processes initiated on false grounds or short-sighted motives may prove to become formidable, and the challenges to national courts that do not yet have practice in this area enormous unless great care is taken when implementing the Convention.

In conclusion, the Aarhus Convention contains reference to a reporting system to be reviewed at the Meetings of the Parties, and, most interestingly, a provision for a future non-compliance procedure, which includes an element of public participation:

---

[932] *Cf.* to Kennedy, D., 2001, 'The International...', where he discusses the role of the international human rights movement as a force for good, but also as part of the problem, i.e. for legitimation of existing power structures, rather than seeking new methods of furthering human rights and emancipation.

[933] As an example of a reaction against the Convention is the fear voiced by Metalliliitto, a Finnish union for metal industry workers, that the Convention's complaints procedures might stop investments and that those organizations or individuals starting procedures on false grounds are not held responsible for economic losses due to such process, *Helsingin Sanomat*, 28.3.2001.

> The Meeting of the Parties shall establish, on a consensus basis, optional arrangements of a non-confrontational, non-judicial and consultative nature for reviewing compliance with the provisions of this Convention. These arrangements shall allow for appropriate public involvement and may include the option of considering communications from members of the public on matters related to this Convention.

This provision is, on the one hand, as clear an indication as any of the current limits of NCPs in international environmental law. The envisaged procedures are phrased in soft terms, and if they ever materialize, their "success" may depend precisely on their relative modesty. On the other hand, the indication of a future role for the public is a novelty. It is interesting not least for the possible transboundary aspect of such participation: although the main thrust of the Convention is to develop access and participation at the national level, an NCP, as a treaty tool, per definition has an inter-state aspect. If "the public" can be part of this at any greater scale, the whole nature of the NCP may become different from the predecessors under other environmental treaties. NGO proposals for the implementation of Article 15 already contain mechanisms, which resemble of individual complaints systems, such as those under human rights treaties.[934] This is an intriguing prospect, whose final outcome may come to influence the development of this entire area of international law.

II.II. In European Community Law

The European Community "initiated a process of openness"[935] when the Directive on the freedom of access to information on the environment was given by the Council in 1990.[936] Article 1 sets out the objective of the access to information Directive:

---

[934] A Task Force (one of five on different issues under the Convention) to consider review of compliance under Article 15 has been established by the first Meeting of the Signatories to the Aarhus Convention. NGOs have actively spoken for a strong mechanism, including NGO participation and direct public communications beside any exhaustion of national remedies in concrete legal conflicts, see e.g. www.eco-forum.org. On proposals for a "Compliance Committee" with independent members, and outside communications by members of the public, see further Ebbesson, J., 2002, and see http://www.unece.org/env/pp/compliance.htm.

[935] Proposal for a Directive of the European Parliament and of the Council on public access to environmental information, COM(2000) 402 final, p. 2; Generally on the right to environmental information in EC law see Kiss, A. & D. Shelton, 1993, pp. 493-499; And on environmental case law of the European Court of Justice and access to the Commission's documents, see Kunzlik, P., 1997, pp. 321-344, esp. *World Wildlife Fund for Nature v. the Commission of the European Communities*, 5.3. 1997, in relation to Commission Decision 94/90 on public access to Commission documents.

to ensure freedom of access to, and dissemination of, information on the environment held by public authorities

According to the Commission, the experience gained through the Directive "was a catalyst for change in the way that public authorities approach the process of openness and transparency".[937] Before it, only the 1982 Seveso Directive (discussed above) had dealt with environmental information, but in the considerably more restricted context of accident hazards, and without any mention of rights of access by the public. In 1991, one writer[938] used the word "revolutionary" to characterize this development in the EC, and he stressed the far-reaching possibilities of various pressure groups to either facilitate or obstruct planned industrial undertakings. In the same vein, another writer[939] pointed out that the legal development was also an interesting example of the transfer of sovereignty from the Member States to their citizens - rather than to Brussels, Strasbourg or Luxembourg. The experience gained in the implementation of the Directive proved to be a valuable basis for discussions when the UN ECE started deliberations for the Aarhus Convention. Partly in order to correct some shortcomings in the Directive and modernize it to take account of developments in information technology, and partly to align EC legislation with the Aarhus Convention in order for the Community to be able to ratify it, the 1990 Directive is presently under consideration for complete replacement.[940]

---

[936] Council Directive of 7 June 1990 on the Freedom of Access to Information on the Environment, 90/313/EEC. The Directive's background is to be found in the environmental provisions presented to the Treaty of Rome by the Single European Act of 17.2.1986, entry into force 1.7.1987, O.J. L169/1 (1987), see Articles 130r and 130s; and in the Fourth Environment Action Programme, Resolution of 19 October 1987 on the Continuation and Implementation of a European Community Policy and Action Programme on the Environment (1987-1992). On this development, see generally Geddes, A.,1988, pp. 826-828; Gurlit, E., 1989, pp. 253-257; See also Council Directive of 5 July 1985 on the Assessment of the Effects of Certain Public and Private Projects on the Environment, 85/337/EEC, O.J. L175 40 (1985). And see Van de Gehuchte, D. and D. Cornelis, 1994, pp. 27-54. Further on national implementation of the 1990 Access Directive, see Scherzberg, A., 1994.; Schrader, Ch., 1994. Turiaux, A., 1994. See also Hughes, D., 1992; and Fluck, J. and A. Theuer, 1995.

[937] Proposal for a Directive of the European Parliament and of the Council on public access to environmental information, COM(2000) 402 final, p. 2.

[938] Gorny, D., 1991, p. 298. *Cf.* esp. assessments of progress made according to Deckmyn, V. & I. Thomson, eds. 1998. And generally on environmental rights in the EU, see Elefteriadis, P., 1999.

[939] Alexander, D., 1990, p. 1316.

[940] Proposal for a Directive of the European Parliament and of the Council on public access to environmental information, COM(2000) 402 final; Amended proposal for a Directive of the European Parliament and of the Council on public access to environmental information, COM(2001)303 final.

The scope of the notion "public authority" is somewhat uncertain in the 1990 Directive. Firstly, it is defined as any public administration at national, regional or local level with responsibilities and possessing environmental information and which is not a judicial or legislative body. This has led to claims by authorities that only have indirect environmental responsibilities, such as transport or energy, that they should not be covered by the Directive. Secondly, the 1990 Directive does not cover private bodies entrusted with public duties relevant to the environment. This would mean that, in sectors such as water, gas, transport, etc., the public in some Member States would have access to information while in some other Member States they would not. The new proposal seeks to amend this situation to cover different types of service providers who possess environmental information or have environmental responsibilities. The scope of the word information is also clarified in the new proposal. Although the 1990 Directive broadly defines information to relate to any written, visual, aural or data-base form of data on the state of water, air, soil, fauna, etc., it leaves the criteria of "adversely affecting" as an element of discretion for the public authorities. Because of restrictive interpretations of the old definition, the new proposal, just as in the Aarhus Convention, includes specifications such as mention of human health, and human safety insofar as it might be "affected" by the state of the environment.

What is, on the other hand, made clear by the 1990 Directive in Article 3, is that both natural and legal persons are free to make requests for environmental information without having to prove an interest. Since the adoption of a provision making discrimination on the basis of nationality unlawful - Article 6 of the Maastricht Treaty on European Union[941] - it has become possible for any citizen within the EC to seek environmental information in any Member State. The applicant is to have a response within two months (Article 3(4)), and a person being denied information may have his case reviewed (Article 4). The new proposal intends to replace the word "prove" an interest with "state" an interest, and it also aims at removing the word "respond" (which has given rise to letters indicating that, at an unspecified future date, the information will be sent) and replacing it with "made available". It has been proposed that the the two-month rule should become a one-month

[941] Former Article 7 EEC, amended by Article G(8) Treaty on European Union, Maastricht, 11.12.1992, entry into force 1.11.1993; See also Treaty of Amsterdam amending Treaty on European Union, 2.10.1997, OJ C340, 10.11.1997; and Treaty of Nice Amending the Treaty on European Union, the Treaties Establishing the European Communities and Certain Related Acts, OJ C80, 10.3.2001.

rule, except under special circumstances when the time limit may be extended to two months. The new proposal also makes the addition of an obligation on public authorities to make information available in the format requested, either as printed copies or in some specific electronic form. In accordance with the subsidiarity principle, it will be left up to the Member States to define and inform about the practical arrangements of environmental information access.

There are situations where information may be lawfully denied in order to protect some legitimate interests. According to Article 3(2) of the 1990 Directive, such situations include the confidentiality of the proceedings of public authorities, international relations and national defence, public security, matters *sub judice*, commercial and industrial confidentiality including intellectual property, the confidentiality of personal data, material supplied by a third party without that party being under a legal obligation to do so, and material likely to harm the environment if disclosed. The circumstances allowing denial of information are afflicted with some ambiguity,[942] and the widely drafted exceptions have sometimes also been too widely interpreted by Member States. Access can be denied if one of the interests listed is "affected", a wording which it is now proposed should become "adversely affected". The new proposal clarifies the industrial secrecy clause so that it excludes the possibility to deny access to information on emissions or discharges into the environment on the basis of the clause. Applicants must respect any intellectual property rights that the information they gain contains. The new proposal also includes some completely new provisions: 1) public authorities may refuse access to information which is not held by them or for them, but they must then transfer the request to another authority believed to possess the information and inform the applicant about the transfer; 2) public authorities may refuse access if applications are manifestly unreasonable or too general or if they entail disproportionate cost or effort or if they obstruct or significantly interfere with the work of the authority; 3) public authorities should have "space to think", meaning that access to internal communications and work in progress may be denied; 4) public authorities must weigh the public interest of disclosure against the interests served by non-disclosure.[943]

---

[942] See Gorny, D., 1991, p. 296, on, e.g., the term "public security". Further on secrecy and confidentiality, see Knemeyer, F-L, 1993; John, E., 1995, p. 30.

The proposal also requires public authorities to make information available in part when it is possible to separate the information requested from that falling under any of the exceptions. Because of differing standards in implementation in Member States, the requirement to give the reasons for a refusal of access to information is proposed to need clarification to mean that public authorities must, within the time limit, give written notification to the applicant and state the reasons for refusal as well as include information on the review procedure. It is proposed that the review procedure in turn be two-fold, consisting of both an administrative and a judicial procedure. Provisions on charges for access to information would be clarified so as to prevent unreasonable charges, to ensure that lists of charges are made available to applicants, including circumstances for waiver of charges, to prevent charges when access is denied, and to make sure that access or examination of information *in situ* is free of charge.

All of these proposals should bring the new directive in line with the Aarhus Convention. The proposed directive may go further than the Convention at least on the issue of the definition of public authority. The greatest change in the proposed directive is however the new rights-language. Instead of the "freedom" of access mentioned in the name and basic principles of the old directive, the new directive would be a step towards the creation of a right of access, along the same lines as the Aarhus Convention.

The proposed new directive contains one further feature of interest: it calls for the proactive dissemination of environmental information to the public making use of periodic reporting on national, regional or local level and, above all, taking advantage of the means that new information technology offer. The explanatory memorandum to the proposal calls this "active supply of information", whereas disclosure of information on request is called "passive supply of information".[944] To the contrary, from the point of view of the individual, a right to make a specific request is "active" and general information supplied by authorities is – although both valuable and necessary - more "passive" in that it leaves it to the discretion of the authorities to decide what information is included. It seems like

[943] Respecting the provisions of Directive 95/46/EC of the European Parliament and of the Council on the protection of individuals with regard to the processing of personal data and of the free movement of such data, *OJ* L 281, 23.11.1995, p. 31.

[944] COM(2000)402 final, p 16.

more than a semantic confusion when general dissemination requirements of states are suddenly treated as novelties! For instance, the Seveso Directive and many of the international environmental treaties to which the EC is party are clearly much more advanced on general duties to inform than on access rights of individuals. However, should the new dissemination requirements come to be taken very seriously by Member States they could prove to be the beginning of a strenghened culture of openness also within the Community. The public would have less of a need to resort to its *active right of access* to information if the authorities would *actively fulfil its affirmative duties* by automatically making that information available.

The final outcome of the process of replacing the Access Directive remains to be seen. In the meantime, the general (as opposed to the forerunning environment-related) debate on openness *versus* secrecy continues at full speed in the EU – within its institutions and in its courts,[945] as well as in at least some of its Member States. On the one hand, the debate and political struggles around it have come to highlight the relatively great differences in legal and administrative cultures related to openness between Member States,[946] as well as the difficulties in introducing a largely Nordic conception of openness to a tradition of official

---

[945] Issues of openness were highlighted within the EU in the so-called *van Buitenen* Case where a Commission employee had leaked information about corruption within the Commission to the Parliament. The ensuing debate led to a relatively narrow vote of confidence by the Parliament for the Commission. In the vote on 14 January 1999, 42 % (232 against-293 for) of MEPs voted against continued confidence for the Commission, which was too little to change the Commission, but perhaps the most important outcome of the process was the attention that issues of secrecy vs. openness in the Union gained. See e.g. *Hufvudstadsbladet*, 13.1.1999 p. 4; 14.1.1999, p. 16; 15.1.1999, p. 12; For case-law see esp. Judgment of the Court of First Instance, 19.10.1995, John Carvel and Guardian Newspaper Ltd. V. Council of the European Union, Case T-194/94, *European Court Reports* 1995, p. II-2765; and Judgment of the Court of First Instance, 17.6.1998, Svenska Journalistförbundet v. Council of the European Union, Case T-174/95, *European Court Reports* 1998, p. II-2289; and see *infra* on Council v. Heidi Hautala Case; Further on relevant case-law see Second report on the implementation of Council Decision 93/731/EC on public access to Council documents, 19 June 1998, pp. 108-109. And see also Deckmyn, V. & I. Thomson, 1998; and Bunyan, T., 1999, and see http://www.statewatch.org.

[946] As a step in this debate, EU Ombudsman Jacob Söderman said in an interview for Finnish TV (27.12.2000 YLE TV2/Punainen Lanka) that the EU is still trying to change from an old-fashioned hierarchical international organization based on a French model to an intergovernmental organization with real concern for real citizens, as introduced by the Maastricht Treaty. According to Söderman, it still does not know how to treat citizens and how to give them information. The Ombudsman went on to say that his role is to live with a certain state of tension to the EU institutions, otherwise he would not really be doing his job as a watchdog properly. Söderman compared the EU to a castle, whose administration should no longer be reformed only from the inside, but it should be opened for the villagers to see and participate in the change. A closed administration fosters corruption and misuse, Söderman said, whereas openness sheds light on misuse, and therefore prevents it.

secrets.[947] On the other hand, the EU as a whole has taken substantive steps forward from the notion of "professional secrecy" in the Treaty of Rome to new developments in its own openness and access to its documents.[948] The process of creating "a Community close to its citizens" has included efforts to simplify and raise the quality of community legislation as well as rhetoric on "the principle of the citizens having the fullest possible access to information".[949] The institutions have jointly declared their intention to enhance transparency, mentioning not only efforts by the Council but also by the Commission, such as wider consultations before presenting proposals, publication of work programmes and legislative programmes in the Official Journal and provision of easier public access to documents.[950]

A major legal development took shape when the Amsterdam Treaty brought the principle of openness to Article 1 of the Treaty on European Union, and it also added Article 255 concerning the right of access by *citizens* to Parliament, Council, and Commission *documents* to the Treaty of the European Community. In so far as the Council is concerned, the aim of Article 255 (and 207(3) and Articles 6-8, Council Rules of Procedure, 31.5.1999) and subsequent Decisions[951] was to bring greater access to documents when the

---

[947] On incompatibility between the Swedish-Finnish model of openness and the "standard European" model of secrecy, see esp. Ziller, J., 2001, pp. 102-119.

[948] In want of a provision in the Treaty, the so-called Declaration No. 17 on the right of access to information was annexed to the Final Act of the Maastricht Treaty on European Union in 1992: "The Conference considers that transparency of the decision-making process strengthens the democratic nature of the institutions and the public's confidence in the administration. The Conference accordingly recommends that the Commission submit to the Council no later than 1993 a report on measures designed to improve public access to the information available to the institutions"; Declaration 17 was followed by the Birmingham Declaration (16.10.1992, *Bulletin of the European Communities*, No. 10-1992, p. 9), which included provisions on openness and access to information held by Community institutions, and by the Conclusions of the Edinburgh European Council on transparency and implementation of the Birmingham Declaration (12.12.1992, *Bulletin of the European Communities*, No. 12-1992, pp. 18-20). This procedure of "opening up the work of the Council" modestly included the introduction of "open debates" ("Public access will be achieved by televising the debate for viewing in the press area of the Council building"), publication of voting records, access to archives, greater transparency of the Council's work through better and faster publication of summaries, background information, press releases, etc.

[949] Council Resolution of 8 June 1993 on the quality of drafting of Community legislation, 93/C 166/01; And see Conclusions of the Copenhagen European Council on access to information, 21 and 22 June 1993, SN 180/1/93; And see Declaration No 39 on the quality of the drafting of Community legislation adopted on 2 October 1997, annexed to Final Act of the Treaty of Amsterdam; and Interinstitutional Agreement on common guidelines for the quality of drafting of Community legislation, 22 December 1998, 13284/1/98; Generally, see Thomson, I., 1998; Westlake, M., 1998.

[950] Interinstitutional Agreement between the European Parliament, the Council and the Commission on democracy, transparency and subsidiarity, 25 October 1993, *Bulletin of the European Communities*, No. 10-1993, pp. 118-119.

Council acts in its legislative role - as opposed to its decision-making role - but without compromising its effectiveness in decision-making.[952] To this end the new public register of EU Council documents,[953] including references to some classified documents (in order for the public to know that such documents exist, but still denying access to them), is now available also electronically. The internet pages include simple instructions on how to submit requests for access to Council documents. Compared to earlier efforts, this internet-availability is indeed a noteworthy development, and it truly enhances public access, as opposed to access between the institutions only. Hardly surprisingly, numbers of requests have increased dramatically, and, despite teething problems, the great majority of requests are met.

The policy on public access to Council documents has been reviewed periodically,[954] and problems of access to documents relating to the common foreign and security policy have been particularly topical,[955] as well as the application of national legislation *versus* Community legislation and loyalty to the latter.[956] As part of a political process that led to

---

[951] See Code of Conduct concerning public access to documents, approved by the Council and the Commission on 6 December 1993, OJ No L 340, 31.12.1993, pp. 41-42; Council Decision 93/731/EC of 20 December 1993 on public access to Council documents, amended by Council Decision 96/705/EC of 6 December 1996, and amended by written procedure by Council Decision (the so-called Solana-decision) of 14 August 2000; And see Decision of the Secretary-General of the Council of 27 February 1996 relating to fees in the context of public access to Council documents. For other related documents, see http://register.consilium.eu.int. The Council also publishes its *Information Handbook of the Council of the European Union* to guide the public as to what information/documents are available and through what procedures; Generally, see Bunyan, T. 1999.

[952] E.g. opinions by the Council's Legal Service are not disclosed; See also Council conclusions on transparency approved on 29 May 1995, 7481/95, pp. 4-5; Code of Conduct on public access to the minutes and statements in the minutes of the Council acting as legislator, 2 October 1995, 10204/95, pp. 15-18.

[953] Council Decision on establishing a public register of Council documents, 19 March 1998, 6423/1/98.

[954] See e.g. First report on the implementation of Council Decision 93/731/EC on public access to Council documents, July 1996; and see subsequent reports.

[955] See below on so-called "Solana Decision" of 14 August 2000 and on Council's classification codes for access to documents, 19.3.2001; And see Judgment of the Court of 6 December 2001, Council of the European Union v. Heidi Hautala, Case C-353/99 P; and Opinion of Advocate General Léger delivered on 10 July 2001, Council of the European Union v. Heidi Hautala, Case C-353/99 P; and see Judgment of the Court of First Instance (First Chamber) of 19 July 1999, Heidi Hautala v. Council of the European Union, Case T-14/98, *European Court Reports* 1999, p. II-2489 for a dispute concerning Decision 93/731/EC and relating to refused access to a document under the common foreign and security policy.

[956] See e.g. new Finnish legislation, which allows for greater openness and rights of access to official documents and clearly enumerated restrictions and exceptions than does the Community legislation, Act on the Publicity of Official Documents, 1999 (Lag om allmänna handlingars offentlighet, 9.2.1951 83/1951, latest amendment 1.6.1999 526/1999; further see Förordning innefattande vissa undantag i fråga om allmänna handlingars offentlighet, 22.12.1951 650/1951, latest amendment 1.1.1995 1558/1994).

the resignation of the Santer Commission in 1999, transparency and accountability were key issues when a group of "Wise Men" at the European Parliament twice reported about mismanagement, and also fraud, cronyism and nepotism in the Commission.[957] The Second Report gave 90 detailed recommendations about diverse issues related to, *inter alia*, financial undertakings and contracts, staff responsibility, audits, internal and external controls and improved information and transparency, especially to Parliament.[958] The Ombudsman and some Nordic parliamentarians have also raised the issue of "whistle-blowing" or a "freedom of the informer", that is greater means for Commission and other civil servants to publicly discuss ongoing work in the institutions as a way of enhancing the prevention of misuse and corruption.[959] And finally, access by the Ombudsman to *inter alia* all Commission[960] and Council documents[961] have recently by Parliament been considered a necessary future improvement in internal openness.

Finally, after an intensive political process over the last few years and despite initiatives by the Council's Secretary-General at circumscribing existing access rules and changing classification codes,[962] the Regulation regarding public access to European Parliament,

---

[957] See Ziller, J., 2001, p. 116 for an argument that the very establishment of this outside expert group is evidence that the Ombudsman institution "is not a key mechanism of accountability in the EU framework", i.e. that it is an import that fits poorly into the mainstream European tradition.

[958] Committee of Independent Experts, First Report on Allegations Regarding Fraud, Mismanagement and Nepotism in the European Commission, 16 March 1999; and Committee of Independent Experts, Second Report on Reform of the Commission –Analysis of Current Practice and Proposals for Tackling Mismanagement, Irregularities and Fraud, 10 September 1999, both available at http://www.europarl.eu.int/experts/default/htm. Ironically, these reports themselves have not gone without criticism for lack of transparency at the time of their drafting, see e.g. article by J. Carey at http://www.sourceuk.net/articles/a01119; Further on Commission practices, see K. Li at http://www.bc.edu/bc_org/avp/law/lwsch/journals/bciclr/24_1/05

[959] See Parliamentary reports: Astrid Thors' report on the Special report by the European Ombudsman, A4-0157/98, July 1998; and Maj-Lis Lööw's report On Openness, A4-0476/98, December 1998. Both reports preceded change of Commission; The issue of "whistleblowers" (applying the Swedish notion of "meddelarfrihet", i.e. "the right of the informer" or "freedom to impart information"; further on the notion, see Larsson, T., 1998, pp. 39-51) became debated only later in 1999; see also *supra* note on *van Buitenen* case.

[960] Also, on environmental case law in relation to access to the Commission's documents, see Kunzlik, P., 1997, pp. 321-344.

[961] There appears to be less support for the idea that the Ombudsman should gain the right to hear the Commissioners or even the civil servants of the Commission. Generally, on the role and impact of the Ombudsman on access to documents and the transparency of decision-making, see Söderman, J., 1998, pp. 75-84.

Council and Commission documents is applicable from 3 December 2001.[963] The preamble of the Regulation makes a few interesting statements of principle: *inter alia*, firstly, it states that "in principle, all documents of the institutions should be accessible to the public"; secondly, "the right of access also applies to documents relating to the common foreign and security policy and to police and judicial cooperation in criminal matters"; thirdly, wider access should be granted to documents when the institutions are acting in their legislative capacity.

The general principle of access is underlined by the inclusion of "any natural or legal person residing or having its registered office in a Member State", and access may be granted by the institutions also to *persons outside the Union*. Access also applies to all documents held by an institution, that is, drawn up or received by it and in its possession. The Regulation makes detailed rules for the procedures of accessing documents, including applications, written replies stating reasons for denial, confirmatory applications and information to the applicant on remedies. In order to make the rights of access effective, Article 11 of the Regulation imposes a duty on the institutions to have, by 3 June 2002, their own public registers on their documents and to, as far as possible, make documents directly accessible in electronic form. As mentioned above, the Council already has a reasonably well functioning electronic register, which appears to be in line with the Regulation.[964] The crucial question for all the institutions will be what documents actually find their way into their registers, and what will not, and how widened rules on public accessibility – given that incentives for secrecy will not disappear overnight - will reduce numbers of documents, or their contents.

---

[962] For a rather comprehensive, and very critical, NGO-made exposé of the development of openness in the EU, see Statewatch's "Secret Europe" site at http://www.statewatch.org/secreteurope.html. See also the same organization's views on the so-called Solana-decision of the EU Council on 14 August 2000 by written procedure amending the Code of Conduct concerning public access to documents of 6 December 1993, and generally on other drafts and memoranda on openness prior to the adoption of the Regulation, and further on the Council's Decision of 19 March 2001 on classification codes (related to NATO classifications) for access to documents.

[963] Regulation (EC) No. 1049/2001 of the European Parliament and of the Council of 30 May 2001 regarding public access to European Parliament, Council and Commission documents, OJ L145, 31.5.2001, pp. 43-48. See also Joint declaration relating to Regulation (EC) No 1049/2001 of the European Parliament and of the Council of 30 May 2001 regarding public access to European Parliament, Council and Commission documents, OJ L173, 27.6.2001, p. 5; And see Council Decision of adopting the Council's security regulations, 28 February 2001, 5775/01.

[964] Council Decision of 29 November 2001 amending the Council's Rules of Procedure, 2001/840/EC, OJ L313/40, 30.11 2001, pp. 40-43.

The exceptions to the rule on access to documents are widely phrased in the new Regulation. These are, under Article 4, (a) public interest as regards public security; defence and military matters; international relations; financial, monetary or economic policy of the Community or a Member State; and (b) privacy and the integrity of the individual (in particular personal data).[965] Also, unless there is an overriding public interest in the disclosure, access shall be refused if commercial interests of natural or legal persons, including intellectual property, court proceedings and legal advice, or the purpose of inspections, investigations and audits would be undermined. Internal documents for deliberations or where decisions have not yet been taken may also be excluded from access if disclosure would seriously undermine the institution's decision-making process (Art. 4.3), and that seems to have become a crucial point in the list of exceptions: the Commission's rules have extended this exception to include "opinions or individual positions". Also, and without any such reference in the Regulation, the Commission's and the Parliament's new rules of procedure allow for some discretion for the institutions when an application for access is "complex".[966] It remains to be seen how such additional restriction will be applied in practice.

However, to the contrary, access should be granted to parts of documents that do not fall under these exceptions, and access should, in principle, also be granted to documents received from third parties. Member States who receive an application for a document by an institution will, if accessibility is not clear, either consult the institution or refer the application to the institution; but "consult" is not equivalent to absolute obedience with the view of the institution, and the Regulation text itself does not make any far-reaching points about loyalty. The Regulation does not explicitly restrict domestic access, it mentions only that "by virtue of the principle of loyal cooperation which governs relations between the institutions and the Member States, Member States should take care not to hamper the

---

[965] See also Directive on the protection of individuals with regard to the processing of personal data and on the free movement of such data, of July 24 1995 and on the process leading to the Directive see COM(92)422 final; Further on the issue and a comparison to U.S. law see Maxeiner, J.R., 1995.

[966] European Parliament Report on the adaptation of the Rules of Procedure to the Regulation (EC) No 1049/2001 of the European Parliament and of the Council regarding public access to documents, (2001/2135(REG)), 15.10.2001; and see Bureau Decision on public access to European Parliament documents, OJ C374, 30.11 2001; Commission Decision of 5 December 2001 amending its Rules of Procedure, 2001/937/EC, ECSC, Euratom, OJ L345, 29.12.2001, pp. 94-98; And see also the European Commission's publication *Access to European Commission Documents – A Citizen's Guide* at http://www.europa.eu.int/comm.secretariat_general/sge/acc_docs/guide

proper application of this Regulation and should respect the security rules of the institutions".

All this – including the new rules of procedure and security of the institutions - adds up to a situation where there is still much room for interpretation. Considering the exceptions and Article 9 on how sensitive documents (Top Secret/Secret; Très Secret/Confidentiel), especially those relating to public security, defence and military matters, should be treated, it is difficult to see how the principle of access to documents on common foreign and security policy could or would become the norm. There is no definition of a threshold ("overriding public interest") for when exceptions could be disregarded when there is great risk to e.g. the environment. A third party sending information may also influence the status of a document, and it means that many future documents are likely to go unregistered and un-accessed. This will underline the role of Parliament as a verifier of registration and submission practice. Preserving "the effectiveness of the decision-making process" has become the term of choice for indicating that there are limits to how far openness can go. And indeed, access is not a black-and-white issue. Whether the interest to be protected is the environment or some other, there are situations where full access to information/documents could jeopardize that very interest.[967] Short-term economic benefit; political gain; terrorism or other violence, which is not guided by any kind of compassion, are among possible reasons for the need to maintain restrictions.

Summing up, the system created within the European Union can be said, despite the widely-embracing rhetoric in documents agreed by its institutions, to stress access to documents rather than access to information, and thus, to make a fine nuance (and only one possible way of using the terminology), transparency rather than openness.[968] It may however be that the upcoming Directive on access to environmental information will be wider in scope, since the proposal only uses the term information. At any rate a system of genuine openness should guarantee both a wide and general right of access to information and a more narrow right of access to documents, the latter being fundamental for the ability

[967] The classical example being thefts of eggs based on information about birds' nesting sites and seasons.

[968] For a different use of the concepts, see Bunyan, T., 1999, p. xi, where transparency is used in relation to the decision-making process and openness is understood to describe the citizen's right of access to documents. Bunyan sometimes also equates freedom of information with access to documents, see http://www.statewatch.org/essays.htm.

of the public to verify any information received and act as watch-dog for the whole decision-making system. This is all to be weighed against the risk that, both in the particular context of the EU and more generally, too far-reaching openness could come to mean that decision-making escapes to informal *fora*, a development which would mean that openness were counter-productive *vis-à-vis* democracy, in terms of participation of some Member States and the public alike. As Hegeland and Mattson put it, "[o]penness is closely associated with democracy, while secrecy can promote efficiency. This is especially true when decision making is made through bargaining, as the case is in the relationships among the member states in the EU".[969]

Further, in order to align Community legislation with the Aarhus Convention so that its ratification is made possible, also some Directives containing provisions on public participation are about to be amended. A Proposal exists to amend the Directives on environmental impact assessments (the EIA Directive) and on integrated pollution prevention and control (the IPPC Directive)[970], so that their terminology and scope correlate with that of the Convention. This is done for instance by introducing the concept of a development consent procedure. The Proposal also makes provision for public participation procedures in respect of plans or programmes (but not "policies" as under Article 7 of the Aarhus Convention, as that has been considered soft law not requiring Community legislation) required to be drawn up under a number of directives on issues ranging from waste to air quality assessment.[971] Member States must ensure that 1) the public are informed about any proposals for plans and programmes or for their review and that relevant information about such proposals is made available to the public; 2) the public are entitled to express comments and opinions before decisions on the plans and programmes are made; and 3) in making those decisions, due account shall be taken of the results of the public participation. In order to achieve this, the Member States must "identify the public entitled to participate", including relevant NGOs.

---

[969] Hegeland, H. and I. Mattson, 1997, p. 88.

[970] Council Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment, *OJ* L 175, 5.7.1984, p. 40; amended by Council Directive 97/11/EC, *OJ* L 73, 14.3.1997, p. 5; and Council Directive 96/61/EC on integrated pollution prevention and control, *OJ* L 257, 10.10.1996, p. 26.

[971] Proposal for a Directive of the European Parliament and of the Council providing for public participation in respect of the drawing up of certain plans and programmes relating to the environment and amending Council Directives 85/337/EEC and 96/61/EC, 18.1.2001, Document 500PC0839.

III. Functions and Problems

III.I. A New Trend in International Law?

The ILC has recently been "inspired by new trends in international law, in general, and environmental law, in particular" in dealing with the issue of information to the public.[972] In its final adoption in 2001 of Draft Articles on prevention under the liability topic, the ILC endorsed the following view in Article 13:

> States concerned shall, by such means as are appropriate, provide the public likely to be affected by an activity within the scope of the present articles with relevant information relating to that activity, the risk involved and the harm which might result and ascertain their views. [973]

Since the Draft Articles apply (Article 1) to "activities not prohibited by international law which involve a risk of causing significant transboundary harm through their physical consequences", the article includes information both to a state's own public and that of other states. The contents of information to the public consist both of data on the activity itself and the scope of risk and harm that it includes. In the commentary to the Draft Articles these contents are linked, *inter alia,* to the contents of the inter-state notification and information duties of Article 8 discussed in detail above in Chapter 2. The duty is circumscribed by the wording "by such means as are appropriate", which leaves the choice of method to the domestic law and policy of the state concerned.

Perhaps the most noteworthy development is however the second requirement, that of ascertaining the view of the public. As the Commentary to the article states, "[w]ithout that second step, the purpose of the article would be defeated". It seeks to involve in the decision-making process individuals whose lives, health, property and environment might be affected by "providing them with a chance to present their views and be heard by those responsible for making the ultimate decisions", and the commentary further enumerates

---

[972] *Report of the International Law Commission on the Work of Its Fiftieth Session*, 1998, GAOR A/53/10, pp. 11-69, see p. 48, and subsequent reports.

[973] Report of the International Law Commission, Fifty-third session, 23 April-1 June and 2 July-10 August, 2001, GAOR, Fifty-sixth, Suppl. No 10, A/56/10, ch. V, pp. 366- 436, at http://www.un.org/law/ilc/reports/2001/2001report.htm, see Commentary at pp. 422-425.

administrative tribunals, courts, and groups of concerned citizens as opportunities to confirm or challenge the accuracy of facts and ways of participation in decision-making. Without further argumentation, the commentary states as the Commission's view that "public involvement enhances the efforts to prevent transboundary and environmental harm".[974] It remains unclear what such a conviction of a preventive function is based on, except that it is said to be a "trend" in international law.

The ILC does seem to be interpreting the signs correctly; but although one can speak of a trend in international law to develop rules meant to bind states to develop national provisions for their public's access to environmental information, the actual rights-based language is still very much a regional European or Western affair. It would be difficult to argue for the existence in general international law of an individual right of access to environmental information (a right to obtain environmental information). If such an argument were made, it would have to be based on the other side of the same coin, the corresponding duty of the state to provide environmental information.[975] But this could only be a partial argument. Another possibility might be to base an argument on other human rights, such as those to life and health, or general rights to receive information, and evidence of practice and *opinio juris* on a connection between those rights and environmental information could probably be drawn from some national constitutions and national practice, or, finally, perhaps even from an argument on the necessity of environmental information.[976] Also, the argument might be based on the idea that the public has already paid for the information, and that officials who keep it secret engage in

---

[974] Commentary, p. 424; *Cf.* on conviction of a compliance enhancing function for public participation see Ebbesson, J., 2002, p. 5: "One of the rationales for involving the public is that it may improve the implementation of environmental laws. In different ways, public involvement may also affect the degree of compliance with international environmental agreements."

[975] See Handl, G., 2001, p. 48: "The present trends in legal decisions and intensifying expressions of public support point towards the gradual emergence of, first, a general legal obligation incumbent upon states and, second, of a corresponding entitlement on the parts of the members of the public", *Vice versa,* the regional legal development, along with arguments derived from constitutional laws, towards rights of access to environmental information could in its turn be taken as yet another important element in the already strong development of the state's duty to inform other *states* on environmental matters, both accidents and information on planned activities.

[976] See further *infra*, Ch. 4.3.III.V. for references to e.g. Indian constitutional law and the practice of its Supreme Court in interpreting the right to life and other rights in favour of environmental rights, see Ramakrishna, K., 1985, pp. 907- 913; Baxi, U., 1987, pp. 32-60; Craig, P.P. & S.L. Deshpande, 1989, pp. 356-373; and see Desai, B., 1993; Anderson, M., 1996, pp. 199-225; Ranjan, S., 2001; and on Nigerian law, see Okonmah, P.D., 1997.

appropriation or theft of public property.[977] However, all these arguments considered, again, at best, there could be a right in a regional context, depending especially on what weight one gives to the Aarhus Convention. Now as the Convention has entered into force, its application among the Parties shall start shaping a future answer to the question whether it is creating regional customary law, but it hardly represents codification of existing custom (except sub-regionally, especially the Nordic countries). Globally, state practice is only beginning to develop, and some of the most recent global treaties clearly indicate that most of the world is not yet ready to accept very far-reaching provisions. For instance, the Stockholm Convention on Persistent Organic Pollutants (POPs)[978] does not use any rights language, but only states that the Parties shall, "within their capabilities", "ensure that the public has access to *public* information" on POPs and related issues (emphasis added). Perhaps the most interesting issue in the future development of the public's access to environmental information will be to see whether access will become an *active* or a *passive* right. The present rule for instance in the EC system, that persons seeking information do not have to prove an interest, is a good point of comparison for future international provisions.

III.II. Awareness Raising

Many of the international legal documents and provisions on access to environmental information make some interesting claims as to the possible functions and benefits of public access. The most frequently referred to, and perhaps the most plausible, claim is that access contributes to awareness raising. For instance, the Memorandum to the proposed new EC Directive on access to environmental information says, *vis-à-vis* environmental objectives to be achieved, that "[g]iving public access to environmental information is essential to achieve these aims; it contributes to a raising of public awareness of and interest in environmental matters and so to a more efficient public participation in the making of environmental decisions which affect their lives. A better informed public is able to carry out a more efficient control of public authorities as they carry out their duties

---

[977] Stiglitz, J., 1999.

[978] Convention on Persistent Organic Pollutants, Stockholm, 22.5.2001, not in force.

in the environmental field, thus securing full and effective enforcement of EC environmental law".[979]

The text refers to efficiency (efficient participation; efficient control and effective enforcement) no less than three times, reflecting some conviction about the contribution of more environmental information. It is however questionable how *individual* access would greatly enhance *general* public awareness, other than in principle. The role of the media, the freedom of the press, is the crucial link in an "Open Society" in achieving greater awareness of environmental problems, and this task is perhaps more pressing in some countries than others.[980] Another facet of the same issue is the extent of freedom of expression in any given country. A third, and most fundamental, link is education, both general and specifically environmental.

III.III. Democracy, Legitimacy and Accountability

The claims go considerably beyond awareness raising, however. Some far-reaching hopes relate to enhanced democracy and legitimacy, primarily on the *national level*. Without going into the extensive and long-running debate on a "democratic deficit" in the European Union,[981] it may be interesting to note that the Preamble to the EC Regulation on access to documents states that

> Openness enables citizens to participate more closely in the decision-making process and guarantees that the administration enjoys greater legitimacy and is more effective and more accountable to the citizen in a democratic system. Openness contributes to strengthening the principles of democracy and respect for fundamental rights [...]

---

[979] COM(2000)402 final, p. 4.

[980] Further on the role of the freedom of the press, especially for accountability, in Swedish-style systems of open government, see Ziller, J., 2001.

[981] Generally, see e.g. Lodge, J., 1994; Andersen, S. & K. Eliassen, 1996; Lord, C., & D. Beetham, 2001. See esp. Joerges, C. & E. Vos, eds., 1999, on EU comitology and transparency and accountability. And see e.g. issue 2(1) *European Union Politics* 2001 for a range of discussions on institutional change, democracy etc. in the EU; Further Ziller, J., 2001.

The Preamble fails to explain just how openness can *guarantee* legitimacy, effectiveness and accountability.[982] The text already presupposes "a democratic system", making openness an enhancing ("more", "greater", "more") device, not a prerequisite. A link of action is needed somewhere between openness and the decision-making process. Perhaps the key to understanding the aspiration presented in the Regulation lies in the word process: the Preamble does not clearly enumerate new means by which citizens could concretely participate in decision-making, but by presenting decision-making as a process, it implies a *continuum* where gaining information becomes one part. And the next step after information, participation, attracts considerably greater expectations: for instance, the proposed EC Directive on public participation[983] is phrased to reflect great confidence in the benefits of participation. It says that:

> Effective public participation in the taking of decisions enables the public to express, and the decision-maker to take account of, opinions and concerns which may be relevant to those decisions, thereby increasing accountability and transparency of the decision-making process and contributing to public awareness of environmental issues.

The Preamble to the Aarhus Convention states that the implementation of the Convention "will contribute to strengthening democracy" in the ECE region. It goes on:

> Aiming thereby to further the accountability of and transparency in decision-making and to strengthen public support for decisions on the environment.

These and most other related paragraphs maintain a basic lack of clarity as to the nature of public participation.[984] The public is only meant to be able to "express its concerns" [985] so

---

[982] At least one writer goes further to say, without supporting argument, that access to information "*ensures* the participation of citizens in national decision-making processes" (emphasis added), Sands, P., 1995, p. 596.

[983] Proposal for a Directive of the European Parliament and of the Council providing for public participation in respect of the drawing up of certain plans and programmes relating to the environment and amending Council Directives 85/337/EEC and 96/61/EC, 18.1.2001, Document 500PC0839.

[984] Cf. Art. 25 of the International Covenant on Civil and Political Rights, New York16.12.1966, in force 23.3.1976; Art. 23 of the American Convention on Human Rights, San José, 22.11.1969, in force 18.7.1978; and Art. 13 of the African Charter on Human and Peoples' Rights, Banjul, 27.6.1981, entry into force 21.10.1986; Compare also to Articles 6-7 and 11 of ILO Convention No. 169 Concerning Indigenous and Tribal Peoples in Independent Countries, Geneva, 27.6.1989, not in force.

[985] Primary devices for public participation include hearings and views submitted to licensing or permit procedures, or reviews of environmental impact assessments, see Kiss, A. & D. Shelton, 1993, p. 499.

that authorities can "take due account" of them. But no one knows what "due account" means, is meant to mean or could mean. It is also unclear who the "public" may actually be,[986] and again, "transparency" means looking through a glass at what is going on, not being on the same side and participating. On the other hand, mere "looking through a glass" may well strengthen public support for decisions, thus enhancing "legitimacy", just in that sense of the word.[987]

The greatest contribution of better rules on access to environmental information and the kind of limited understanding of public participation that has been developed recently is perhaps, on the one hand, the "watch-dog" tools that they may offer, and on the other hand, also concrete participation in environmental impact assessments (EIAs).[988] Because mere information/knowledge/transparency does not imply acceptance of decisions made, and "taking due account" of "views presented" is not participation in a proper sense, they do not *automatically* enhance, for instance, democracy and perhaps thereby legitimacy. But if access and limited individual participation are seen as part of a process of shared views, pressure, and control, then decisions affecting the environment could become better anchored among the "public". And finally, on the same tone, public participation may be, as done by Boyle, presented as a central element of sustainable development, given that sustainable development means reconciling by "a complex balancing process" the competing claims of human beings and nature.[989] This would not have to be done through a "reconceptualization of international environmental law into the international law of environmental rights",[990] but through the "empowerment" of individuals and groups to influence decision on their environment.

---

[986] Further on "international civil society", whether it comes from "below" and whether it represents any real "democratisation" of international law, see Anderson, K., 2000.

[987] For references to the vast literature on the notion of legitimacy, and for a general discussion on its meaning (as the justification of authority; on popular and normative legitimacy; persuasion, etc.), see e.g. Sadeniemi, P., 1995, on legitimacy in international relations; and see Bodansky, 1999, pp. 601-603.

[988] Handl, G., 2001, p. 153: "... public participation is essential for environmental impact assessment (EIA). In sum, it is probably correct that as a normative concept, 'public participation' extends beyond the narrow context of EIA and in this wider sense reflects an international obligation"; ibid., pp. 153-157 further for extensive references to both legally binding and soft law documents in relation to public participation.

[989] Boyle, A., 1996, p. 64; and *cf.* Boyle, A. & D. Freestone, 1999.

[990] Ibid., p. 63.

Still on the national level, the elaboration of international law instruments on openness and participation may prove to be of some help in the "democratisation" of some states.[991] This would be as noteworthy a development as any one can imagine for the role of international law,[992] and particularly for the role of environmental problem-solving as a vehicle of other social change, but it is also a prospect that must not be overstated.[993] The ECE process has influenced the EU, and *vice versa*: it has been a two-way street where the EC 1990 Directive first influenced the ECE[994] and where the Aarhus Convention then led to substantial proposals for changes in EC law.[995] But more importantly, the Aarhus Convention could influence societies with even weaker democratic traditions.[996] Also the ECE Protocol on Water and Health[997] is interesting in that it is a concrete example of broader efforts to support the countries of Eastern Europe in their efforts to solve serious water and health related problems. For instance governmental background material related

---

[991] Ibid., p. 64: "[T]he role of human rights law in democratizing national decision-making processes and making them more rational, open, and legitimate will become more and not less significant. Public participation, as foreseen in Agenda 21, is thus a central element in sustainable development".

[992] On the question whether at all international law should promote democracy, and if it should, what kind of conception of democracy, see Marks, S., 1998, pp. 73-79. But also, *cf.* Koskenniemi, M., 1996, p. 231- for a discussion on a "right to democracy" and its implications as legitimising Western neo-imperialist values; Generally, see Franck, T.M., 1992; And further, see panel discussion *Implementing Democratization: What Role for International Organizations?* at American Society of International Law, Annual Meeting, Washington D.C., April 1997 (meeting theme: "Implementation, Compliance and Effectiveness").

[993] See Alston, P., 2000, p. 523 on democratisation and human rights treaty bodies: "Democratisation is certainly a key factor, but it is not a result which is ever likely to be brought about solely by measures taken within a human rights treaty system. Condemnation by a treaty body can contribute to pressures towards democratisation by reinforcing and legitimising opposition demands and even by helping to call into question, both internally and externally, the legitimacy of the government. At the end of the day, it remains the case that no set of concluding observations, no matter how trenchant or incisive, can bring about a transition to democracy. But neither will expulsion from the treaty system."

[994] And it also influenced the Convention for the Protection of the Marine Environment of the North East Atlantic, Paris, 22.9.1992, entry into force 25.3.1998.

[995] On this process see Proposal for a Directive of the European Parliament and of the Council on public access to environmental information, COM(2000) 402 final, p. 2.

[996] See statement by Mr. Kaj Bärlund, Director of the Environment and Human Settlements Division of the United Nations Economic Commission for Europe, at the NGO session at the Ministerial Conference "Environment for Europe" in Aarhus, Denmark, 24.6.1998. http://www.unece.org/press/98env14e.htm; By way of an example of practical efforts to broaden knowledge about the Aarhus Convention, the Finnish government sponsored participation by some thirty environmental activists from the former Soviet states to participate in the Aarhus Fourth Ministerial Conference in 1998; See also Ebbesson, J., 2002: " several countries that previously formed part of the Soviet Union were among the first to ratify the Convention. Some NGOs from Eastern Europe saw the Convention as a general vehicle for furthering democracy and making their society more transparent".

[997] Protocol on Water and Health to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes, London, 17.6.1999, not in force.

to the Finnish signature of the Protocol explicitly write that the treaty itself does not bring much new for Finland, but that the country, just as many other EU countries, supported the elaboration of the Protocol precisely in order to encourage some other states to resolve their water problems.[998] This is an argument that has also been made more generally for many ECE environmental treaties.[999] The ECE, which covers countries from France to Kazakhstan, and includes many different political systems and levels of development, has despite many challenges and differing views not stagnated in its efforts to reach international environmental agreements. Instead, several treaties developed under ECE auspices are seen as positive efforts to help countries with economies in transition to meet new demands. Support is also not merely moral, but has included practical help, such as guidance on legal and administrative development and these incentives are perhaps to be understood as at least some explanation to why the ECE treaties have been joined by such relatively high numbers of member states.

At the *international level*, the democracy, legitimacy and accountability of environmental decision-making gain additional facets. Could greater openness and participation be meant also to bring **1)** better public **control/supervision** of international environmental decision-making? Or is it envisaged to mean **2)** broadened, even individual **participation** and "democratisation" of international environmental decision-making? Acting as watch-dog/supervisor over international environmental decision-making must be more difficult for the general public and NGOs than on the national level, but not impossible, even given that participation is more indirect than on the national level. Typically, this dilemma has often been met by calls for one new international environmental organization, where, in the view or Ayling, "[o]nly participatory and transparent structures that recognize and utilise the multiple skills and talents available amongst interested actors will ensure further progress towards effective international environmental norms and institutions, and confer legitimacy on the organization in the wider world community".[1000]

---

[998] Muistio Nro 51, Ulkoasiainministeriö, oikeudellinen osasto, 27.5.1999 (Ministry for Foreign Affairs, Memorandum attached to presentation to the President of the Republic, 11.6.1999).

[999] And more generally for international law; But *cf.* Danilenko, G.M., 1999, pp. 51-69, who also expresses some doubts about whether former CIS states take their constitutional clauses on international law seriously.

[1000] Ayling, J., 1997, p. 269; *Cf.* to earlier pre-Rio hopes for one organization by Palmer, G., 1992.

Bringing more legitimacy into global environmental protection[1001] is a confusing challenge, which has recently been voiced also within the anti-globalisation movement. In that movement, as effectively conveyed by the media, most are also utter pessimists as to the current state of environmental protection.[1002] Ironically, the called for "legitimisation" should be enhanced by the same fora whose information is to be continuously questioned. Continuous questioning is part of public control and supervision, the watch-dog function, which is crucial in democracy. In such a function the power of informal as well as formal (and publicly accessed) environmental information exchange could become part of an international legitimising movement. This is not to say that democracy would be the only conceivable basis for legitimacy,[1003] nor does it imply that democracy on the international plane[1004] would have to be constructed in the same fashion as it, among all its forms, mostly is on the national level in the West.

But realizing any high hopes for "legitimising" results of access to environmental information is challenged by several conflicts. The first relates to the effectiveness of decision-making. Negotiations may be jeopardized if news is known ahead of time, and the work of civil servants may be obstructed if ideas they elaborate upon are torn apart before they can be well presented.[1005] Thus the classical dilemma is to "reconcile the conflicting demands of openness and secrecy", when secrecy can be a much more efficient tool than openness for international decision-making and democracy.[1006] Another conflict lies in the

---

[1001] For a seminal piece, and references, on legitimacy in international environmental law and decision-making, see Bodansky, D., 1999; And generally on legitimacy in international law see, Franck, T.M., 1988, pp. 705-; and further on his discussion on legitimacy as "right process", pulling states towards compliance, and on legitimacy as a matter of degree, ibid., 1990, p. 24 *et seq.*; Alvarez, J.E., 1991, pp. 242-243; Chayes, A. & A.H. Chayes, 1995, esp. pp. 106-108, 127-134; in international relations see e.g. Victor, D.G., 1998; and in international organizations, see Coicaud, J-M & V. Heiskanen, eds., 2001.

[1002] Outside this movement some others, the proponents, see great possibilities for "good governance" and "global governance". And yet others, a small group, engage in critical discussion. E.g. see Giddens, A. and L. Sklair, 'The Globalization Debate' at the *Fathom* site at www.fathom.com/lse.

[1003] See further e.g. Franck, T.M., 1990, on his view of component parts of legitimacy: determinacy, symbolic validation, coherence, and adherence, and on the correlation of legitimacy, not coercion, to state compliance; Bodansky, D., 1999, discusses popular and participatory legitimacy, legal legitimacy and expert legitimacy as well as the notion of democracy in international decision-making.

[1004] On democracy and global governance, and esp. in the UN, see Marks, S., 1998, pp. 74-76.

[1005] On "space to think" for civil servants, see Proposal for a Directive of the European Parliament and of the Council on public access to environmental information, COM(2000) 402 final.

[1006] Hegeland, H. and I. Mattson, 1997, p. 88.

accessibility of politicians, civil servants and other decision-makers. On the one hand they should be able to meet openly and easily with the public, but with the security risks there are today, meetings are increasingly held behind not only locked doors, but behind police fences, protected by tear-gas and other safety devices.[1007] Also, there is a challenge related to speed: the more information, the quicker and the easier it is available, the greater the public pressures for change. Instant decision-making without sufficient time for reflection and deepened knowledge may create situations where the quality of decisions diminishes, quite in contrast to the hopes presented in the Aarhus Convention. This could be particularly dangerous in the environmental field, where "extinct is forever", or in the humanitarian field, where costs in human suffering may be high. This is not to say that time is abundant in environmental protection. But also, the volume and speed of information may lead to the opposite, less demands for change, because the torrent of data creates an illusion of effort. This again is the challenge of overflow, and as such one which should not be used as an argument against the provision of relevant, sufficient and better quality environmental information.

Bodansky's argument, that the increasing authority of international environmental law prompts concerns about its legitimacy, builds partly on an analogy to the European Union and the debate on the democratic deficit in its institutions.[1008] But there are still plenty of arguments that keep international environmental law clearly in the traditional confines of public international law: the lack of one or few global organizations with broad decision-making powers; still relatively few examples of majority or other less-than-consensus voting under treaties (a handful among hundreds of multilateral treaties);[1009] and weak or

---

[1007] One way of interpreting this situation is that those who arrange violent demonstrations (e.g. for more openness, public participation etc.) work against the democracy they set out to defend. In the end this paradox between openness and democracy must be met by deliberate "listening" on both sides of the fence.

[1008] Bodansky, D., 1999. The argument turns i.a. to examples of international standard setting outside traditional state consent-based negotiations, the Codex Alimentarius Commission (government experts and industry advisors) and the International Organizations for Standardization (ISO) (business representatives), and to how international environmental law is increasingly becoming intertwined with national environmental law. Bodansky discusses popular and participatory legitimacy, legal legitimacy and expert legitimacy as well as the notion of democracy in international decision-making.

[1009] The already classical examples are CITES (Art. XVII; 2/3 majority), the Biodiversity Convention (Art. 29(3): first consensus, then 2/3 majority), the Vienna Ozone Convention (Art. 9(3); first consensus, then ¾ majority), the Montreal Protocol , the Basel Convention (Art. 17(3); first consensus, then ¾ majority), and the Climate Change Convention (Art. 15(3); first consensus, then ¾ majority); See Lavranos, N., 2002 for a discussion on decision-making in some COPs and MOPs under environmental treaties, especially as regards amendments and adjustments to annexes, and the questions it raises on who actually makes the binding

non-existing enforcement structures under treaties. But on the other hand, the trend that has been born out of these "weaknesses", that is "proceduralization" and "management", could mean that decision-making power moves to some other level than the state, e.g. treaty secretariats, international civil servants, expert bodies, scientists, or various NGOs, and this involves either a shift in legitimacy or a legitimacy-void. What is striking about environmental law is perhaps its volume, the hundreds of treaties all over the world, bilateral and multilateral, and on a very wide range of issues. On a rhetoric level, though not so much on a binding legal level, environmental questions increasingly become knit into other international issues. A rather intricate web of international legal rules on states' environmental behaviour has been created, and certainly that web creates situations where there may be lack of clarity as to who the decision-makers are,[1010] how they reach agreement,[1011] and who controls them. If international environmental law develops more in a direction where traditional state consent becomes less and less legitimising from the point of view of non-state actors, and if there will be greater needs for more flexible decision-making which do not require state consent, then the area of law has, according to Bodansky, a legitimacy problem.[1012] Chayes and Chayes would argue that the legitimacy of a "management approach" is dependent, i.a. on "procedural fairness", including transparency, reporting and data collection, verification and monitoring.[1013] In contrast, Bodansky's conclusion, i.a., that "principles of procedural fairness – transparency, public access, and so forth – are important, but do not answer the crucial question of who should make decisions and how they should do so" seems a compelling point, where bases of legitimacy, for instance, democracy, public participation, expertise[1014] and transnational

---

decisions: Parties, majorities of Parties, NGOs, scientists, etc. According to Lavranos, COPs/MOPs have "genuine law-making powers through the adoption of binding decisions. Although most MEAs prefer to use consensus as a basis for binding decisions of the COPs/MOPs, formally decisions can be taken by two thirds or three quarters majority voting", p. 46.

[1010] See further Lavranos, N., 2002.

[1011] Related also to the legitimacy of the original treaty negotiating forum. Global Climate Change process was example of a complex situation: from a very narrow body of experts working out elements for a treaty to a GA created Intergovernmental Negotiating Committee to ensure wider participation.

[1012] The *ifs* are the crux of the matter: Bodansky's argument about a growing legitimacy problem is based on these assumptions, although there are relatively limited examples found so far.

[1013] Chayes, A. & A.H. Chayes, 1995. Their "management model" is contrasted to an "enforcement model", where compliance is induced through management as a cooperative, interactive approach of justification, discourse and persuasion; See book review by Koh, H.H., 1997, pp. 389-391.

[1014] On the interesting topic of epistemic communities, epistemic influence and expert control, see for a seminal piece, Haas, P.M., 1989, pp. 377-; and see Haas, P.M., *Saving the Mediterranean...*, 1990; Haas,

elites[1015] become the more important objects of study. He goes on to say that "transparency and public participation confer a relatively weak form of legitimacy since they do not affirmatively justify the decisions made by international regimes". Again, this is an indication of the importance, as well as the limitations – the indirect value - of the role of rules on environmental information sharing and access, and a useful reminder not to inflate their independent meaning for legitimacy.[1016] All in all, the role of openness and public participation is paradoxical from the point of view of legitimacy: since transparency, openness and public participation are part of a managerial trend, they are also part of a legitimacy problem as control and decision-making may be slowly drifting away from the state, but on the other hand, they are part of the "solution" in that they offer tools to check on other fundamentally managerial procedures in the hands of experts, scientists, international civil servants, and so on.

The second question relating to more formal public participation in international environmental decision-making is much more difficult. It challenges the very foundations of public international law as we have traditionally known it: as a state consent based system of self-interest and reciprocity. Broad participation by all states, especially developing ones, is called for, but at the same time precisely such a system of broad participation and consent is criticized for lack of efficiency, for producing too few tangible results. Furhermore with decision-making based on something less than consensus, there would still be questions raised about the legitimacy of such decision-making, because good models/new institutions have not yet been sufficiently developed. The question of the role of the individual remains, but no answers are to be found.

P.M., 'Obtaining International...', 1990, pp. 347-363; Sand, P.H., 1990, p. 29; Haas, P.M., 'Introduction: Epistemic...', 1992, pp. 1-35; Haas, P.M., 'Banning ...', 1992, pp. 187-224; Adler, E. & P.M. Haas, 'Conclusion: Epistemic... ', 1992, pp. 367-390; Haas, P.M., *From Theory...*, No. 92-2; Milner, H., 1992, esp. pp. 478-480; and further on the role of e.g. expertise, see Stern, P.C., O.R. Young & D. Druckman, eds., 1992, pp. 116-121, 152-155; and on the relatively limited influence of the epistemic community in whaling management, see Peterson, M.J., 1992, pp. 147-186; Marton-Lefèvre, J., 1994, pp. 171-180; Boehmer-Christiansen, S., 1994, pp. 181-198; on the relationship between expertise and democracy, see Bodansky, D., 1999, pp. 619-623; On diversity of expertise needed under e.g. human rights treaty bodies, see Scott, C., 2000.

[1015] Related to epistemic communities; In relation to NGOs see esp. Anderson, K., 2000; and on legitimacy of international organizations, see further esp. Coicaud, J-M & V. Heiskanen, eds., 2001.

[1016] But in contrast the weight of, for instance, the precautionary principle could perhaps be given more weight, see *supra* chapter 1.1; and on precaution and scientific/expert assessments of risk, see e.g. Bodansky, D. 1999, p. 622. For a short comment on "self-corrective processes", or lack thereof, in epistemic communities, see Schachter, O., in *ASIL Proceedings*, 1993, p. 395.

In the Commentary to its Draft Principles on prevention, the ILC has stated that "[a]part from the desirability of encouraging public participation in national decision-making on vital issues regarding development and the tolerance levels of harm in order to enhance the legitimacy of and compliance with the decisions taken, it is suggested that, given the development of human rights law, *public participation could also be viewed as a growing right under national as well as international law*".[1017] However, hardly any of the above-discussed treaties suggest moving the individual to the forefront of international environmental decision-making, but in contrast they frequently – in rather general wording - underline the importance of NGOs,[1018] without addressing the crucial questions whom they represent, i.e. who elects them. It is hardly surprising that the protesters at Seattle, Prague, Gothenburg, Genoa, etc., are so clear in questioning the legitimacy of, say, the G8 for, for instance, global environmental decision-making, and at the same time so vague as to alternative methods, except perhaps in considering themselves as the voices of the "people". In the view of many within the anti-globalisation debate, the role and responsibility of large companies in the wake of ever greater free movement of capital is crucial.[1019] It is an interesting paradox that some of the NGOs speaking for an "Open Society" and greater access to information (and hoping for greater participatory rights for themselves) may themselves be relatively secretive.[1020]

Finally, then, the question of who is the "public" that should participate in the protection of the environment,[1021] particularly the global commons? Everyone? Those closest to or

---

[1017] Emphasis added; Report of the International Law Commission, Fifty-third session, 23 April-1 June and 2 July-10 August, 2001, GAOR, Fifty-sixth, Suppl. No 10, A/56/10, ch. V, pp. 366 - 436, at http://www.un.org/law/ilc/reports/2001/2001report.htm, see Commentary at p. 425.

[1018] But further on NGO participation and legitimacy in international governance, see Schweitz, M.L., 1995, pp. 415-420; generally see Raustiala, K., 1997; and Cameron, J., 1997; and see esp. Anderson, K., 2000 on the role of NGOs for the negotiation of the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction, Ottawa, 4.12. 1997, in force 1.3. 1999.

[1019] Seminal for the discussion and for anti-corporate activism is Klein, N., 2000.

[1020] The prime example of an organization that has been criticized for lack of transparency (and democracy within the organization) is Greenpeace. By way of an example, recent calls in Finland for information about its funding have been met by reference to legislation preventing the disclosure of the names of donors. Although legally correct in relation to the protection of personal data, this raises the interesting issue of the role and responsibility of environmental NGOs in the current debate for more openness.

[1021] The creation of greater openness and more participation is problematic also in terms of the identification of relevant or interested participants at the national level. By way of an example, when the Aarhus Convention's ratification was prepared in Finland, the procedure was afterwards criticized by employee

possibly affected by decisions made *vis-à-vis* the commons? This question leads to philosophical and ethical choices, and it points to some absurdity in the issue of (changed bases for) democracy and democracy-based legitimacy in global environmental protection. Firstly, the right "people" or "public", the *demos* in democracy, cannot be identified, and the question of "environmental democracy" therefore rendered odd. A crucial point in democracy is the reasons for and the extent to which some individuals do *not* participate. In "environmental democracy" the interesting question would be who the potentially marginalized, non-participating groups would be (e.g. indigenous peoples). In any event, there is no system where the environment itself would function as *demos*. Secondly, even if more actors, not objects of protection (the environment itself), may be gaining a say, there are no guarantees that this will actually improve environmental protection of the commons or shared resources or any other parts of the environment. Even if a broader (or simply different) basis of decision-makers was identified, or new international institutions created,[1022] the question remains how they should act in order to formulate better environmental protection: *how* in the sense of what ethical and other choices they should make, and *how* in the sense of what procedure they should apply to be more "legitimate" than present state decision-makers. Because procedure is related to power and legitimacy, there is often the argument that in order to ensure some qualitative changes there is want of a "true pluralism" of competing interests,[1023] much beyond traditional models (such as that of the ILO), embracing industry, landowners, shipping interests, producers, consumer groups, environmental NGOs, experts, academics, administrators, and so on and so forth.

---

organizations for the fact that they had not been properly heard about how and whether at all they welcomed the Convention. Among several points of critique raised, Metalliliitto, a Finnish union for metal industry workers, objected to the possible stops to investments that the Convention's wide provisions for access to justice may lead to, see *Helsingin Sanomat*, 28.3.2001. Thus already a discussion on the very incorporation in national law of the Convention's provisions gave rise to a situation where not all possible interested parties were identified, at least not from their own point of view. And this is a problem built into the Convention: it is so broad that the sheer volume of its objects may become unbearable. All cannot be informed. On the other hand this struggle for access and participation is the essence of democracy. It also takes activity and active choice to participate; See generally Dahl, R.A., 1994.

[1022] See calls for such by Palmer, G., 1992, pp. 259-283; and, again, see Bodansky, D., 1999, for renewed calls for new institutions: "In the long run, this [decision-making] deficit will require stronger international institutions and decision-making mechanisms", p. 623; and Chayes, A. & A.H. Chayes, 1995, p. 284: "It should not be beyond the abilities of the international community to create new organizational arrangements that are lean, effective, and politically responsive" and " effort is needed now to provide the institutional capacity to manage compliance with the most demanding regulatory problems the international system has yet addressed", p. 285.

[1023] The term pluralist is meant not in a philosophical sense, but simply to mean that different views taken together may ensure some quality.

This fight between different interests could then create some legitimacy, although the aggregation of different interests still may not amount to legitimate democracy in any traditional sense, but be instrumentalizations where poor and unpredictable decisions are still possible. Access opens doors for new ethics, but gives few ready answers as to the value judgments that have to be made. In that sense access and participation may offer the potential for, but not a promise of, better choices and decisions, better environmental protection, whether through managerial models or along new lines.

One paragraph in the Aarhus Convention creates a completely new kind of argument. Article 3(7) says that:

> Each Party shall promote the application of the principles of this Convention in *international environmental decision-making processes* and within the framework of international organizations in matters relating to the environment.(emphasis added)

It remains to be seen how, if at all, the Aarhus Convention's somewhat awkward provision on access and participation (and access to justice) in *international environmental decision-making* will influence other treaties' COPs to invite more active NGO participation. Given the question marks over representation attached already to NGO participation, it would seem very tenuous to argue for proper individual participation in any meaningful sense, but in contrast, individual rights of access to environmental information from treaty secretariats, COPs and expert bodies may come to be influenced by the Aarhus Convention.

III.IV. Technology-belief

The Preamble to the Aarhus Convention notes the "importance of making use of the media and of electronic or other, future forms of communication". Needless to say, the entire issue of new forms of communication is "hot". An exhausting number of workshops, seminars, conferences and the like are currently being arranged by different organizations on such issues as "electronic democracy"[1024] and electronic tools for the implementation of

[1024] See e.g. Ferdinand, P., 2000.

public participation.[1025] Also under the Aarhus Convention a Task Force has been convened to consider the possibilities to make use of electronic tools, mainly the internet, to achieve the goals of the Convention.[1026] The exceptional optimism connected to the new technology is well illustrated by the topic of a seminar given at a Task Force meeting: it is titled "The Challenge of Unlimited Possibilities".[1027] The *pathos* is striking, especially in light of arguments that the new information technology might be leading to new social divisions.[1028] Marginalization would then be dependent on the extent to which an individual or a group of individuals is able to access, understand and utilize information technology. This could have many negative effects for elderly people and other groups who are already disadvantaged, not to mention whole countries where infrastructure is lagging behind the current development.[1029] If such fears materialize it could have great repercussions for democratic participation also in environmental matters, which is dependent on, i.a., access to information, which, in turn, increasingly seems to become dependent on electronic means of communication. If new technology functions as a marginalizing factor, then environmental issues dependent on that technology might become a luxury of the few. But again, the other side of the coin is the momentum for less developed countries and marginalized groups to "catch up" right now while the technology is still taking shape. This is the junction where international legal efforts such as the Aarhus Convention have one of their greatest roles, especially if financial mechanisms and technology transfers would follow suit. Another challenge is related to international regulation of internet code, an issue argued to be connected to larger questions of whose systems and values (e.g. private actors, rich states or all states) will become prevalent in the future.[1030]

[1025] See e.g. OECD, Public Management Service (PUMA), http://www.oecd.org/puma/citizens; UNESCO, 3rd World Symposium of Information Technology, 2-4 May 2001; The International Institute for Democracy and Electoral Assistance (IDEA), www.idea.int; and see http://www.globalforum.it on Third Global Forum on "Fostering democracy and development through e-government", arranged by Italian Government in co-operation with OECD, UN and the World Bank, Naples, 15-17 March 2001.

[1026] See e.g. UNEP/GRID: "Electronic Tools for the Aarhus Convention", Task Force Workshop, 8-9 March 2001, Arendal, Norway, http://www.grida.no/enrin/aarhus.

[1027] Ibid., Dr. J. Bing, Norwegian Research Center for Computers and Law, http://www.grida.no/enrin/aarhus/.

[1028] For extensive discussions on new communications divides, digital poverty and related subjects, see Norris, P., 2000; and Norris, P., 2001; Interestingly, at grassroots level protests against new social divides, such as those feared to come as results of globalization, do not all happen on the internet, but protests are back on the streets. On the other hand the internet must be assumed to be a vehicle for the gathering of opinions and people alike.

[1029] See *Kehitys-Utveckling* 4/2001 for several discussions on this and related topics.

III.V. Anthropocentricity and Rights

In 1972, Principle 1 of the Stockholm Declaration proclaimed that:

> Man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generations.

The equivalent Principle I of the Rio Declaration states that:

> Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature.

Both of these declarations take a clearly anthropocentric approach to environmental protection. Classically, reference to these Declarations and their central principles act as arguments for the legal bases of both sustainable development and a human right to a clean environment. This stresses the obvious, that the concepts are intimately related, and that they are both challenging from any non-anthropocentric perspective to environmental protection. Thus, at one end of the debate, Handl has noted that:

> [t]he notion that a generic environmental human right – as against narrowly defined, sectoral individual rights – could be used as a lever by which to accelerate the international environmental legal agenda is misleading. It grossly underestimates the difficulties involved in operationalizing such a normative concept. [...] diverting attention away from the pursuit of more promising avenues of solving pressing environmental problems. In short, it is unlikely to promote realistic environmental or human rights objectives.[1031]

Nonetheless, a general debate on a right[1032] to a clean /healthy /sound/ decent /adequate /viable /satisfactory environment blossomed at the beginning of the 1990s (despite or because of the lack of actual rights language in the Rio Declaration),[1033] when a few

---

[1030] Lessig, L., 1999; And see further Mayer, F.C., 2001.

[1031] Handl, G., 'Human Rights and ..', 1992, p. 142.

[1032] Generally on the relationship between "rights" and "duties", see Steiner, H. & P. Alston, 1996, ch. 4.

[1033] See Gormley, P., 1976; Kromarek, P., ed., 1987; Gormley, P., 1990, pp. 85-; Alfredson, G. & A. Ovsiouk, 1991, pp. 19-27; Weber, S., 1991, pp. 177-185; Shelton, D., 1991; Kiss, A-C, 1992, p. 13; Birnie, P. & A. Boyle, 1992, pp. 188-214; Shelton, D., 1992, pp. 91-; Cancado Trindade, A., ed., 1992; Handl, G., 'Human Rights and ..', 1992, pp. 117-142; Roderick, P., ed., Conference Report: *Human Rights Approaches to*

regional human rights treaties[1034] and many countries' constitutions had embraced the notion.[1035] Earlier constitutions had often only referred to the right to life or health, and they had then in a few states' legal practice been interpreted as implying a right to a healthy environment.[1036] But in the last decade there have been loud arguments to the effect that environmental degradation can adversely affect an individual's well-being without affecting his or her "life" or "health".[1037] Despite no pronouncements of an explicit substantive right to a clean environment in either human rights or environmental treaties,[1038] some writers[1039] as well as the representatives of some international

---

Environmental Protection in the Commonwealth and Beyond, 1993; Kiss, A. & D. Shelton, 1993, p. 493; Kane, M.J., 1993, pp. 389-411; Desgagné, R., 1995; Tomasevski, K., 1995; Sands, P., 1995, pp. 220-230; Boyle, A. & M. Anderson, eds., 1996; Okonmah, P.D., 1997.

[1034] African Charter on Human and Peoples' Rights, Banjul, 27.6 1981, in force 21.10.1986, Art. 24: "all peoples shall have the right to a general satisfactory environment favourable to their development"; and Additional Protocol on Economic, Social and Cultural Rights to the American Convention on Human Rights, San Salvador, 17.11.1988, not in force, Art. 11: "Everyone shall have the right to live in a healthy environment. The State Parties shall promote the protection, preservation and improvement of the environment".

[1035] See e.g. Constitution of Burkina Faso, 1991, Art. 30, which recognizes a "right to a healthy environment" along with an individual and a collective right to action; Constitution of Namibia, 1990, Chapter II; On South African Constitution, see Glazewski, J., 1993; and see Philippine Constitution, 1987, Section 16, Art. II: "The State shall protect and advance the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature"; and on this right and its interpretation by the Philippine Supreme Court in the landmark *Minors Oposa v. Factoran* case, 1993 (33 ILM 173 (1994), see further La Viña, A., 1994, pp. 246-252; the Colombian Constitution, 1991, Art. 79 and further on Latin American Constitutions see Aguilar, A.F., 1994; The Constitution of Finland, 11.6.1999, 731/1999 (available at http://www.om.fi/constitution/3340.htm), Section 20, para. 2, recognizes that "The public authorities shall endeavour to guarantee for everyone the right to a healthy environment and for everyone the possibility to influence the decisions that concern their own living environment". Most constitutions that include a right to a clean environment declare both a state duty and an individual duty to protect the environment, but seldom include provisions for individual enforcement; Further on constitutional provisions, see *Human Rights and the Environment: The Legal Basis for a Human Right to the Environment*. Report to the UN Sub-Commission on the Prevention of Discrimination and the Protection of Minorities, Sierra Club Legal Defence Fund, April 1992; see Tomasevski, K., 1995, pp. 258-259; and see national case studies in Anderson, M. & A. Boyle, 1996, pp. 153-302.

[1036] See esp. Indian Constitution, Arts. 21 and 47; on public interest litigation and the Indian Supreme Court's interpretation of the right to life, see Ramakrishna, K., 1985, pp. 907- 913; Baxi, U., 1987, pp. 32-60; Craig, P.P. & S.L. Deshpande, 1989, pp. 356-373; and see Desai, B., 1993; Anderson, M., 1996, pp. 199-225; Ranjan, S., 2001; and on the possibilities for this under Nigerian law, see Okonmah, P.D., 1997.

[1037] See *Lopez Ostra v. Spain*, European Court of Human Rights, Judgment of 9 December 1994, Series A No. 303-C; and see Special Rapporteur, Ms. Fatma Zohra Ouhachi-Ksentini, *Human Rights and the Environment*, Final Report of the Special Rapporteur, UN Doc. E/CN.4/Sub.2/1994/9, 6.7. 1994, and see at http://www.unhchr.ch/; But *contra* for earlier formulations see Universal Declaration of Human Rights, Resolution 217 A (III), 10.12.1948, Art. 25; International Covenant on Economic, Social and Cultural Rights, New York, 16.12.1966, entry into force 3.1.1976, Art. 11(1); and see UN GA: Resolution 45/94 of 1990, which states that "all individuals are entitled to live in an environment adequate for their health and well-being".

[1038] For a thorough overview, see Shelton, D., 2002, http://.unhchr.ch/environment/bp1.html. For an example of one further environmental treaty referring to several types of rights short of an explicit right to a clean

organizations[1040] have argued that a generic human right to a clean environment exists in international law, others that no such right exists, or that it does not exist independently, but that it can be derived from other treaty rights, such as life, health and property.[1041] In both cases, most arguments about the existence of a right to a clean environment seem to build on the conviction that the implementation of such a right is dependent, in one way or another, on "education, information and action",[1042] or "standing, access to information and due process of law",[1043] that is on other individual and often procedural rights.[1044] In contrast, one writer, apparently hopeful of some development of an explicit right to a clean environment, notes that "[o]ne should not be so naïve as to assume that public participation solves all environmental problems. Participatory instruments cannot replace norms providing for certain fundamental substantive entitlements".[1045] In addition, some still hope for the development of a collective right to a clean environment, despite the problems of quality-definitions and inadequate supervision by existing human rights institutions that

---

environment, see Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, Paris, 14.10.1994, in force 26.12.1996, Articles 10(2)(e), 13(1)(b), 14(2)(19), 25. *Cf.* also the ECHR (esp. Article 6(1)) and the Aarhus Convention: neither mention an explicit right to a clean environment, but ECHR is open to interpretation in relation to other related rights (see *supra* Ch. 4.2.A. para. *a.*), and Aarhus is explicit on information and public participation. The Aarhus Convention's provisions in Article 9 on access to justice, and especially the widely phrased basis for sufficient interest, are also especially noteworthy in this respect.

[1039] On the aspiration, see e.g. Shelton, D., 1991, p. 133; and *cf.* Okonmah, P.D., 1997, p. 61.

[1040] Fabra, A., 2002, p. 4, writes that "no IO or UN agency whose competence is not related to the field of human rights recognizes or expressly addresses the right to a healthy environment. However, when commenting on the work of the UN Special Rapporteur on Human Rights and the Environment or responding to the Secretary-General's call for comments on progress achieved since UNCED in promoting and protecting human rights in relation to environmental questions and in the framework of Agenda 21, several of them (Division for Sustainable Development, Division for the Advancement of Women, Economic Commission for Europe, UNEP and WHO) acknowledged the existence of a right to a safe and healthy environment; http://.unhchr.ch/environment/bp3.html.

[1041] See Birnie, P. & A. Boyle, 1992, pp. 192; and see ibid. 2002. See also Tomasevski, K., 1995, p.258 *et seq.*

[1042] Kiss, A. & D. Shelton, 1993, p. 493. "Guarantees of information and participation are basic to the concept of environmental rights and have been incorporated into many national, Community and international laws", p. 493; Information, public interest litigation, environmental justice, and international organizations are among mechanisms which have been discussed in connection to implementing a right to a clean environment, see Roderick, P., ed., 1993, p. 11; And see Bakkenist, G., 1993 who discusses access to environmental information in the EC and Agenda 21 as means to implement a right, that she argues exists, to a clean and healthy environment.

[1043] Tomasevski, K., 1995, p. 261.

[1044] See further Kiss, A-C, 1992, p. 13; Boyle, A., 1993; and Birnie, P. & A. Boyle, 1992, pp. 190-196; and see Handl, G., 'Human Rights and...', 1992.

[1045] Ebbesson, J., 2002, p. 6.

such a right would create. Some would also argue that a collective right might be bett suited than an individual right to deal with the inevitable clash between human needs on th one hand, and the needs of future generations, the global commons, ecosystems and singl species on the other hand.[1046] Thus, one writer notes, that "the right to a clean environmen currently regarded as 'soft' law at the international level, can only be fully realized ir public law, against the backdrop of sustainable development".[1047]

Cowen, in arguing against court-enforced rights[1048] to an adequate environment, writes that such rights would probably be challenged by priorities given to "sustainable development or economic well-being over and above the integrity of the environment". Therefore, he suggests, a balance between these two has to be achieved, not via courts, but by the interplay of political, economic, scientific and ethical processes, and that the role of law should be to ensure that such interplay can happen "openly, honestly and without arbitrary power being entrusted to any person, institution or agency of government".[1049] Of course, the argument that stands out is the emphasis on openness as a tool for environmental protection and the balancing of interests that it involves. In contrast to a general right to a clean environment, rights that are traditionally perceived as civil and political rights, such as the rights to information or participation, could more easily be enforceable, and, again, the Rio Declaration and other instruments of international law emphasize their meaning as tools of environmental protection.[1050] Indeed, the right to information on the environment is different from a general right to a healthy environment:[1051] the latter is "substantive" and considerably more difficult to define, realize, and supervise. Above all, the latter brings in the issue of whether there are drawbacks in a human rights approach. The right to

---

[1046] See esp. Birnie, P. & A. Boyle, 1992, p. 194.

[1047] Okonmah, P.D., 1997, p. 43.

[1048] See also Tomasevski, K., 1995, p. 257.

[1049] Cowen, D.V., 1989, p. 24. (a discussion at the time of the drafting of the new South African Constitution on problems related to rights, and other, approaches to environmental protection).

[1050] Kiss, A-C, 1992, p. 13 argues that the emergence of a customary law rule on the right to environment is reinforced by the Rio Declaration throught its provisions on access to information, participation and access to judicial procedures; Further on political rights and environmental protection, see Kane, M.J., 1993, pp. 389-411.

[1051] *Cf.* on "right to know" in relation to the traditionally very secretive area of regulation of pharmaceuticals, see 't Hoen, E., 1998, pp. 61-72, and other articles in 1 *Development Dialogue* 1998, as well as for the Statement of the International Working Group on Transparency and Accountability in Drug Regulation, p. 98.

information, on the other hand, does not quite seem to bring in those same fears: the fact that it is "procedural" makes it appear less of a challenge for states.[1052] This is the crux of the matter. What appears weak does not have to be so if it is put to use: rules on rights of access to environmental information and participation can be given meaning by individuals' making use of those rules through all conceivable methods, in the end also in courts. In this sense a right of access to environmental information is also clearly connected to rules on equal access,[1053] and procedural rules may not only be implementations of a "right to a clean environment", but its actual content. Finally, the view that developments in international law of procedures to make environment and development-related decisions (through i.a. information access, participation and equal access), does not imply that some substantive notions of generic environmental rights could not, or should not, develop within national legal systems.[1054]

It has been argued above that there is an element of absurdity in efforts to bring more democracy into international environmental protection, that is, if democracy is understood to refer to people/individuals, as opposed to some notion of consent and fairness/equality/inclusiveness/etc. in inter-state decision-making.[1055] But apart from individuals and states the environment itself, or parts thereof, is not heard, it has no say,[1056] and it has for a few decades – at least since Stone's seminal article[1057] – been asked

---

[1052] But *contra* some would use the term "the right to know" to denote a stronger, more empowering right, see e.g. Bakkenist, G., 1993.

[1053] This is of particular value between countries of similar legal development in environmental protection and citizens' rights to participate, to seek redress, etc. (e.g. the Nordic countries, see Nordic Convention on the Protection of the Environment, Stockholm, 19.2.1974, entry into force 5.10 1976; and see *supra* ch. 4.2.(c) on the Convention; and generally, Phillips, Ch. 1986, p. 155-; Broms, B., 1986, p. 141-; Brunnée, J., 1988, pp. 171-174); On OECD efforts to develop equal access, see Council Recommendation on Principles concerning Transfrontier Pollution, 14.11 1974. C(74)224(1974); and Council Recommendation for the Implementation of a Regime of Equal Right of Access and Non-discrimination in Relation to Transfrontier Pollution, 17.5.1977. C(77)28(Final); Further see Birnie, P. & A. Boyle, 1992, p. 197-201; And see e.g. the ECE 1992 Industrial Accidents Convention, Article 9(3).

[1054] See further Boyle, A., 1996, p. 64.

[1055] On the absence of a *demos* among states, see Bodansky, D., 1999, pp. 616-617.

[1056] Of course, this is not an exceptional situation: children enjoy legal protection in many national systems, but their own views on their treatment are not necessarily ascertained, although the argument exists that younger and younger children ought to be listened to. Does it have to be demeaning that an infant who does not yet speak cannot be heard? See further on the use of the child example in rights debates, Cowen, D.V., 1989, p. 21.

[1057] Stone, C.D., 1972; See also Stone, C.D., 1985.

whether nature itself should not enjoy more "rights".[1058] A challenge to the human centred approach has developed in parallel with it. It involves a stress on species and commons, and more recently, on ecosystems and biodiversity[1059] in several treaties and soft law documents, and only in the most extreme writers' arguments, claims for "rights" of nature. The challenge is also concerned with forward-looking principles such as precaution and the rights of future generations, both of which would be very difficult to realize from a traditional human rights perspective. Added to these are developments towards compensation and especially restoration schemes for ecological damage.[1060]

This parallel development could easily look like a balance between two competing and equally compelling pursuits within international law: human needs and nature's needs; but it is hardly a balance. Considering the Rio process and its strong focus on sustainable development the tilt is clearly towards anthropocentric concerns, and now the Aarhus Convention has come to reinforce that impression. The Aarhus Convention is a human rights treaty, not an "environmental treaty". It is certainly a far cry from the discussions in recent years on rights of nature and animal rights[1061] and the Convention does so little to underline the environment as an aspect of more open societies[1062] that the argument can

---

[1058] As an anti-anthropocentric stance this is interesting, because it shows just how even that discussion is bound to use the same language/legal language that the human rights discussion would. Indeed the "inherently" human nature of legal rights (*hominum causa omne ius constitutum*) is one of the most frequently used arguments against any "rights" of nature. But many other arguments *pro et contra* exist, see Cowen, D.V., 1989, who argues that no "significant advantage is achieved by attributing legal rights to trees, animals and buildings which cannot more naturally be achieved by using other legal concepts and another legal terminology", p. 22. Further on rights of nature, see Stutzin, G., 1976; Nash, R.F, 1989; and for an overview esp. Redgwell, C., 1996;

[1059] See esp. the 1992 Biodiversity Convention; and generally, see Boyle, A., 'The Convention on Biological Diversity', 1994, pp. 111-127; On earlier conservation treaties and wildlife law, see esp. Lyster, S., 1985.

[1060] See e.g. reference to "property of states" in Art. 1(a) of the Convention on International Liability for Damage caused by Space Objects, Geneva, 29.3.1972, entry into force 1.9.1972; and see Canadian claims in *Cosmos 954* case, 23.1.1979, 18 I.L.M. (1979), pp. 899-908; see also Art. 139 and 235 of the 1982 UNCLOS; and Art 8 of the 1988 CRAMRA; But *contra* note the failure of the ILC to include environmental damage in its work on crimes against the peace and security of mankind. The first reading of the Draft Code included wilful and severe damage to the environment (Art. 26) as crimes against the peace and security of mankind, see 'Report of the International Law Commission on its 43rd Session', 1991, 30 I.L.M. (1991), p. 1584; but for the later development see e.g. Special Rapporteur Doudou Thiam, *Thirteenth Report on the Draft Code of Crimes Against the Peace and Security of Mankind*, 1995, A/CN.4/466; and finally see *Report of the International Law Commission on the Work of its Forty-eighth Session*, 1996, GAOR Supp. No. 10 (A/51/10), pp. 9-120; and see Jacqmotte, B., 1998.

[1061] Further on the main criticisms of anthropocentricity from the deep ecology/environmentalism, animal rights, and some other sub-debates, see esp. Redgwell, C., 1996, pp. 71-87; see also Shelton, D., 1991.

rightly be made that the Convention is "environmentally" weak. This is also at the heart of criticisms against the Convention and the entire rights-based development. It highlights differences in ethical points of departure and the heterogeneity of environmental interests. At the same time there appears to be two parallel trends in public reactions to environmental problems: a slump, despite Agenda 21 and other efforts, among the great majority, perhaps because environmental issues have become so ordinary and "everyday", *versus* a radicalisation among smaller groups of environmental activists, both locally and in international networks and gatherings.[1063]

Although news coverage would easily give the impression that the more radical trend in international environmental protection is that which speaks for nature's and animals' rights, the more dominating feature is related to the human rights discourse. From a strictly environmental point of departure the "threat" of anthropocentricity is akin to the "threat" of the developmental aspect in sustainable development (as discussed above in Chapter 1). But Porras writes that "[t]he apparent ability of developing countries to influence international environmental norms in the context of the Rio Declaration may serve to create a real opportunity for creation of the new globalism. If it is capable of responding to and embrace development, the environment motif may yet serve as a force to progress beyond the rhetoric and logic of binary oppositions towards a new way of understanding international relations".[1064] This could mean that if sustainable development is taken with real commitment given to both sides of the concept, it could have some potential apart from mere eloquence also for environmental protection, and it could thus be more realistic and attractive - for developing countries - than an aggressive stressing of "only" environmental law. Perhaps the same kind of hope could exist in the relationship between human rights and environmental protection: that if taken seriously, in both cases fears may be turned around to strengths, the strengths of diverse approaches, and in the realization that

---

[1062] But, on the other hand, in the ECE precisely (and perhaps only?) the environment is a subject compelling enough that it might be a carrier of democratic principles to several Member States; see above on democratization.

[1063] Critical social movements are often classified as either reactive or proactive: Reactive movements would be those objecting to changes or developments in society and defending the values of past times, for instance the skinhead movement. Most environmental movements are proactive, they argue for social change. The 1990s animal rights movement is an exceptional version of a proactive movement in that it is very radical and has an anarchic structure, it does not respect e.g. private property, and it is difficult to classify in traditional social terms of political, social or economic character.

[1064] Porras, I.M., 1993, p. 33.

ultimately needs are interconnected. This seems to be the case for developing procedural rather than any substantive environmental rights, as procedural rights may avoid "anthropocentricity to the extent that such rights can be exercised on behalf of the environment or of its non-human components".[1065]Such a balancing act[1066] involves epistemological change, a whole new mindset.[1067] It remains a challenge for the advocates of a new, balancing kind of human rights approach, that, just as many national constitutions declare, there will be responsibilities attached to rights, and that individuals are bearers of that responsibility, too.

III.VI. Restrictions to the Open Society

Quite in contrast to all the developments discussed above, there have recently also been calls for less openness, and less information, either in the name of preventing public fear,[1068] but especially in the name of safety.[1069] These calls have not been the traditional

---

[1065] Birnie, P. & A. Boyle, 1992, p. 194-195; and for the argument that "[t]he enforcement of individual rights requires empowerement of the individuals to whom the right is owed and who can also enforce the rights on behalf of the environment itself", see Bakkenist, G., 1993.

[1066] See further Lador, Y., 1993 on an "ecological rights" concept; On balancing or reconciling different interests, see Boyle, A., 1996, p. 64; and *cf.* Boyle, A. & D. Freestone, 1999; See also Conable, B.B, 1990; Shelton, D., 1991, p. 117; and Redgewell, C., 1996, p. 87.

[1067] Medvedev, G, 1991, p. 265, talks about the need for a "New Culture for the Nuclear Age". He quotes A.I. Vorobyov, a Russian specialist on leukaemia, who writes that "accidents are never accidental. Everyone must now understand that life in the nuclear age demands the same kind of painstaking attention to detail as one finds in the calculation of a missile trajectory. The nuclear age, cannot be nuclear in one area only, and nonnuclear everywhere else. [...] Anyone who wants to live in the nuclear era has got to create a new culture, a whole new mindset".

[1068] Here the role of the mass media is crucial. It can create fear and hysteria through false or exaggerated reporting (as seen in some, though not all, U.S. newspapers during the first cases of Anthrax in September/October 2001).

[1069] The recent Agreement on the Exchange of Radiation Monitoring Data concluded by the Council of the Baltic Sea States provides for an interesting aspect to restrictions to environmental information to the public: Firstly, unverified radiation data shall be declared as such and, secondly, unverified data shall not be made publicly available or available to a third Party without the consent of the originator. This may at first glance seem like an unnecessary restriction, but it may also fulfil the function of preventing "false alarms" or incorrect information from causing confusing situations both nationally and internationally. See Agreement on the Exchange of Radiation Monitoring Data, Hamburg, 7.6.2001, not in force; See further CBSS web-pages; Russia is not a Party to the Agreement, but has concentrated on establishing bilateral environmental protection treaties, such as the modest framework established under the Agreement on Environmental Cooperation between the Government of the Republic of Finland and the Government of the Russian Federation, Moscow, 29.4.1992, in force. See also Finland-Soviet Union: Agreement on Early Notification of Nuclear Accidents and Exchange of Information concerning Nuclear Installations, Helsinki, 7.1.1987, in force 18.7.1987.

reluctance of secretive administrations to permit insight, but prompted by concern with public safety. Could this mean a step back from an Open Society, just as it is beginning to gain momentum?[1070] Is it failing just as it is starting? Neither openness and transparency nor access to environmental information can be unrestricted, there are always considerations for where to draw the line, be it for reasons of defence or industrial secrecy or for the protection of personal data.[1071] With the September 11, 2001 suicide attacks in the United States fresh in mind, it seems that the threat of terrorism is perhaps one of the main challenges to openness. Building an Open Society becomes impossible if access to information entails the risk of loss of basic security, but with terrorism the distinction between information to citizens and to non-citizens is often irrelevant, as threats may come from the outside as well as from the inside of a state. Citizens need to know that there are safety procedures and contingency plans and so on, but if all plans are public they may be misused or destroyed, or terrorists could use the information to hinder mitigating efforts. This could entail both humanitarian and environmental catastrophes, especially in the case of use of biological or chemical weapons.

The threat of eco-terrorism may be a different case. It may well be that better information about particular industrial undertakings or working methods can reduce the risk of attacks against them. On the other hand, there is no clear pattern as to what form attacks "in favour of nature" may take or what the underlying rationale may be, and therefore any assessment of the role of public information is very difficult to make.[1072] In any case, there is the argument that no industrial or other activities with potentially damaging effects to the environment should be allowed to go on without public knowledge thereof, and that public scrutiny of the primary activity is more important as a means of environmental protection than are any efforts to reduce the risks of negative actions based on too much information.

[1070] Further on the question how open a government can be, esp. on Swedish government, see Larsson, T., 1998; and Ziller, J., 2001.

[1071] Further see e.g. Stiglitz, J., 1999.

[1072] One initial ground for hesitation in Germany to join the Aarhus Convention related to the safety of nuclear waste transports, which have repeatedly been met by potentially dangerous protests.

IV. Potential for a New Ethic?

Besides being a new – and mostly regional - "trend" in international law, the development towards rights of access to environmental information and participation seems to contain some ingredients for a challenge to the current "managerial" way of environmental protection. For instance, the EU Commission's Explanatory Memorandum to the proposed EC Directive on public participation[1073] is very optimistic as it states that "[w]ider public participation in environmental decision-making contributes to an increase in public awareness of environmental issues and thus *improves the protection and the quality of the environment throughout the Community*". It also says that public participation "helps to achieve" the aims of the Community's environmental policy, which include preserving, protecting and improving the quality of the environment, protecting human health, prudent and rational utilisation of natural resources, and promoting measures at international level to deal with regional and world-wide environmental problems.[1074] The Preamble to the Aarhus Convention connects information to the *quality*[1075] of decisions:

> in the field of the environment, improved access to information and public participation in decision-making enhance the quality and the implementation of decisions, contribute to public awareness of environmental issues, give the public the opportunity to express its concerns and enable public authorities to take due account of such concerns.

Thus at least a rhetorical chain of reasoning is established whereby not only do information lead to awareness-raising, and public participation to accountability, but these are together believed even to *improve the quality of the environment.* But what it is that the public, or indeed states or other actors, could do that is different to the present stress on management and that would lead to better protection of the environment remains an open question. It

---

[1073] Proposal for a Directive of the European Parliament and of the Council providing for public participation in respect of the drawing up of certain plans and programmes relating to the environment and amending Council Directives 85/337/EEC and 96/61/EC, 18.1.2001, Document 500PC0839; And see COM(2000)402 final, p. 16.

[1074] Document 500PC0839, p. 2 and 3.

[1075] *Cf.* IISD/UNEP: *Environment and Trade: A Handbook*, 2000, at http://iisd.ca/trade/handbook/, which writes that "[o]penness is widely recognized as being valuable to government, since it makes bureaucracies more responsive and accountable, and can bring more and better information to the decision-making process. The result of open practice is better decisions, particularly in areas with widespread impacts such as trade, environment and development policies".

may of course be that the "better informed" and more "participating" public would consider the present managerial model just fine, and that there is no immediate replacement for it, but at most amelioration of the procedures and mechanisms involved. A look at some developments besides the treaties and regional development discussed above may give some indications:

First, there are noteworthy developments in some key institutions. After years of lending activity based on little or no disclosure of relevant information to the affected local public, to donor countries, or even to Bank officials, and subsequent heavy criticism against the practice,[1076] the World Bank in 1993 approved a new Information Policy. [1077] The practice of the Bank has developed considerably *vis-á-vis* openness, participation and accountability, both due to internal demands and external public pressure through various international NGO efforts and governmental pressures. Its initially internal Operational Standards have evolved to become the crucial norms against which Bank projects are assessed, and the performance of which can be challenged by individuals and groups whose interests may have been adversely affected through a Bank project, e.g. non-fulfilment of the Operational Standards.[1078] Complaints are handled in the Bank's own, but at least partially independent,[1079] non-compliance procedure, the Inspection Panel, established in 1993.[1080] Apart from the complaints procedure, the role of the individual is noteworthy in

---

[1076] See esp. Udall, L., 1998, pp. 391-427.

[1077] Draft Review of World Bank Policy on Information Disclosure, 1994, see The World Bank Group, Information Disclosure Consultation Home Page (as it was accessible at least until September 2000) at http://www.worldbank.org/html/pic/disclosure/index.htm; And see Foreword by L.T. Preston, President, stating that sharing information stimulates debate, broadens understanding of development issues, facilitates cooperation among the parties involved, and serves to strengthen public support for efforts to improve the lives of people in developing countries; Ibid., Para. 3: "The Bank recognizes and endorses the fundamental importance of accountability and transparency in the development process. Accordingly, it is the Bank's policy to be open about its activities and to welcome and seek out opportunities to *explain* its work to the widest possible audience"(emphasis added). This could be criticized to mean that an explanation is a one-sided action, a possibility to defend ones position, but that it does not automatically include an element of debate or listening to alternative views; But the Bank also stated that "[i]nformation is not withheld solely because it is negative; the Bank, as an open, technically competent institution which learns from its mistakes, seeks to provide balanced information, reporting the failures or disappointments in its operations as well as successes."

[1078] See further esp. Boisson de Chazournes, L., 2000, pp. 281-303.

[1079] Partially, because the Board decides which claims the Panel may investigate. On "tests" of the Inspection Panel's independence from the Bank's board of executive directors, e.g. through Arun III case, see Udall, L., 1998, pp. 408-427. And, ibid. *cf.* on independence of Operation Evaluations Department and Office of General Counsel.

one crucial respect: mainly through local NGOs in Bank funded project communities, they may influence Bank projects through various consultation and assessment processes, and therefore also come to give some input into the development of the Operational Standards.[1081] Resent years, the Information Policy has been put to test by NGO scrutiny, revised and updated (latest in effect in early 2002),[1082] but it is still criticised for major weaknesses. The Bank's old statement that "[t]here is a presumption in favor of disclosure"[1083] has been unsystematically implemented, the quality of released documents may have been so low as to rendering them useless for the public, the policy does not function retroactively, and the Operational Policies and Bank Procedures have been revised and shortened while merely advisory Good Practices have been inflated, giving the public less norms against which to try Bank actions.[1084] All in all, as Udall notes, there is a "close link between information disclosure, policy violations, and the Inspection Panel process" where "the success or failure of either the information policy or the Inspection Panel will influence the other" and public and donor government support will "depend on progress" in accountability and transparency.[1085]

The impact of these, albeit criticized, developments towards openness are not only practical – the World Bank lends over $ 22 billion a year – but it has symbolic and trend-setting value for other institutions as well. Is this not after all, along with related efforts in other global and regional institutions,[1086] evidence of something new, an evolving culture of

---

[1080] Resolution No. 93-10, Resolution No, IDA 93-6; 22.9 1993; And see Operating Procedures, 1994; Generally, see Bradlow, D. & S. Schlemmer-Schulte, 1994; Bissell, R.E., 1997.

[1081] For several detailed examples, see Fox, J.A. & L.D. Brown, eds. , 1998.

[1082] See revised WB Disclosure Policy of September 2001, effective in early 2002, at same address: http://www.worldbank.org/html/pic/disclosure/index.htm

[1083] Directive on Disclosure of Information, July 1989; This citation also appears e.g. in the Draft Review of World Bank Policy on Information Disclosure, 1994, Para. 4.; and see Para. 56; and in subsequent documents.

[1084] Udall, L., 1998, pp. 406-408, 426.

[1085] Ibid, pp. 426-427.

[1086] See further Shihata, I.F.I., 1994; Dana, L., 1999; The World Bank: *World Bank-Civil Society Collaboration – Progress Report for Fiscal Years 2000 and 2002;* Generally Wirth, D., 1994, pp. 769-802; and on GEF, generally, Boisson de Chazournes, L., 1995, pp. 612-632; On several multilateral development banks and funds and their environmentally relevant activities, see esp. Handl, G., 2001. And further on "accountability mechanisms" in the Asian Development Bank and the Inter-American Development Bank, and information disclosure policies in the EBRD, IDB, and in the OECD (esp. on the OECD Council Recommendation on Environmental Information, 1998), see Fabra, A., 2002,

openness? Sand writes that it is "no coincidence that the recent institutional reforms for this purpose [public access and accountability] which are now spreading to most multilateral development agencies – the new procedures for information disclosure, NGO participation, and the establishment of 'inspection panels' for compliance control – were spearheaded by the environmental movement".[1087] The general development within large institutions towards greater transparency and openness, even with limited public participation attached, is congruent with the idea, presented e.g. by Stiglitz, that "the less *directly* accountable a governmental agency is to the public, the more important is it that its actions be open and transparent".[1088] Of course, the fact that global institutions such as the World Bank are not, *a priori,* accountable to the public, but to their member states, makes this proposition even more valid, and the success and independence of various compliance and control mechanisms more pressing.

And secondly, in addition to the great number of environmental treaties discussed above in relation to access rights, some newer agreements bring in further evidence of a change in thinking. The Stockholm Convention on Persistent Organic Pollutants (POPs)[1089] does not use any rights language, but it brings in one novel aspect of information dissemination. The treaty text says that the Parties shall, within their capabilities, encourage *industry* and *professional users* to promote and facilitate the provision of information on POPs at the national level, and as appropriate, subregional, regional or global levels. This is a step in a new direction, and it underlines, albeit in weak language, the responsibilities of actors other than states.

---

http://.unhchr.ch/environment/bp3.html; But *contra* see Fabra, A., 2002, p. 13, comment that "[a] number of IOs, such as the EBRD, IDB and the WB, have developed information disclosure policies, but this practice is not generalized among IOs". For earlier comment on need for transparency in the WTO, see Makuch, Z., 1996, p. 113; and on WTO document derestriction policy, esp. since Seattle Ministerial Conference, see IISD/UNEP: *Environment and Trade: A Handbook*, 2000, at http://iisd.ca/trade/handbook/. Despite considerable advances in transparency since its 1996 decision on derestriction, the WTO still restricts any document submitted by a member who requests that it be restricted; all working documents, until adopted or until six months after circulation; minutes of WTO bodies (except for the Trade Policy Review Mechanism) may be derestricted after six months; arguments that members submit to dispute resolution panels; and reports of dispute resolution panels, except party demands for a delay, which are derestricted ten days after circulation. For all derestricted WTO documents, look at http://www.wto.org.

[1087] Sand, P.H., 1999, pp. 347-348.

[1088] Stiglitz, J., 1999.

[1089] Convention on Persistent Organic Pollutants, Stockholm, 22.5.2001, not in force.

A third example of more voluntary and/or private initiative in environmental protection is provided by the Eco-Management and Audit Scheme (EMAS) in the European Union, which aims to promote continuous environmental performance improvements by industry and, now, all sectors of economic activity, including local authorities, and verification of these performances.[1090] This is expressly a "managerial" method in that it is based on a standardized environmental management system (ISO 14001) and incremental change, but on the other hand it functions on a voluntary basis in addition to the full compliance by participating companies of national and Community-based legal obligations. The EMAS encourages information from the private sector to the public on matters relating to the environmental effects of economic activities: thus an example of voluntary, and "managerial", information.

These three examples, along with all the treaty developments described in this and previous chapters,[1091] could be taken as evidence that a change in "culture", where openness is central, is taking place.[1092]And the two latter examples of openness also point towards one further question, namely that of the role of private responsibility for environmental protection, now using the term responsibility broadly, also beyond the constraints of a traditional legal rights-responsibilities discussion. Do growing rights of access to environmental information imply growing individual responsibilities as well? If you can find out what is going on, do you have an obligation to participate?[1093] Does this question extend itself to transnational companies, whose power, despite some legal constraints, to influence activities relating to the environment may be enormous? Public international law

---

[1090] Council Regulation (EC) No 751/2001 of the European Parliament and of the Council of 19 March 2001 allowing voluntary participation by organisations in a Community eco-management and audit scheme (EMAS); and see old Regulation: Council Regulation (EEC) No 1836/93 of 29 June 1993; See also http://europa.eu.int/comm/environment/emas/; And generally on both EMAS and the ISO 14000 standards system established by the International Organization for Standardization, for, i.a. establishing environmental management systems, see Handl, G., 2001, pp. 98-101.

[1091] In this context the additional question exists of the openness versus the secrecy of environmental treaty bodies' documents. E.g. the compliance committee under the Climate Change Convention may receive submissions of information from NGOs. Information from Parties is public unless the enforcement branch upon its own or a Party's initiative decides that the information becomes public only after a decision has been taken. Likewise, the branch, not a Party, may decide whether a hearing is close; See FCCC/CP/2001/L.21, at COP7 at Marrakech, 5.11.2001.

[1092] On the role of NGOs, e.g. Amnesty International, for creating a "culture of openness", see Stiglitz, J., 1999.

[1093] Classical parallel questions are e.g. whether a right to vote should entail an obligation to use that right, or whether a right to health-care involves a duty to seek medical help in illness.

has, with the Aarhus Convention, taken a step towards influencing individual rights on the national level. The next, and equally dramatic, step in international public law would be to underline responsibilities beyond mere information sharing, and superficial participation, and especially then for companies and individuals.

Duties attached to individuals, not only states, to protect the environment exist in many national constitutions.[1094] For instance, the Constitution of India, in Article 51A(g) makes it a fundamental duty of every citizen to "protect and improve the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creatures".[1095] Environmental protection is also viewed as a responsibility under the new Finnish Constitution.[1096] Section 20 on Responsibility for the environment states that:

> Nature and its biodiversity, the environment and the national heritage are the responsibility of everyone.
>
> The public authorities shall endeavour to guarantee for everyone the right to a healthy environment and for everyone the possibility to influence the decisions that concern their own living environment.

In international treaty law, the Aarhus Convention Preamble includes the duty, both individually and in association with others, to protect and improve the environment. It

---

[1094] See *supra* on functions and problems in relation to rights: III.V. Anthropocentricity and Rights, for references to national constitutions that include explicit rights to a clean environment; and see *Human Rights and the Environment: The Legal Basis for a Human Right to the Environment.* Report to the UN Sub-Commission on the Prevention of Discrimination and the Protection of Minorities, Sierra Club Legal Defence Fund, April 1992; and see national case studies in Anderson, M. & A. Boyle, 1996, pp. 153-302.

[1095] The Constitution of India, 1976 Amendment; See also Art. 48A, the Directive Principle of State Policy on environmental protection, and Article 51A(h) which further states that the Indian citizen should "develop the scientific temper, humanism and the spirit of inquiry and reform".

[1096] The Constitution of Finland, 11.6.1999, 731/1999, Section 20: Responsibility for the environment; look at http://www.om.fi/constitution/3340.htm. See also Section 12 - Freedom of expression and right of access to information:

> Everyone has the freedom of expression. Freedom of expression entails the right to express, disseminate and receive information, opinions and other communications without prior prevention by anyone. More detailed provisions on the exercise of the freedom of expression are laid down by an Act. Provisions on restrictions relating to pictorial programmes that are necessary for the protection of children may be laid down by an Act.
>
> Documents and recordings in the possession of the authorities are public, unless their publication has for compelling reasons been specifically restricted by an Act. Everyone has the right of access to public documents and recordings.

remains to be seen whether wording such as that under the new POPs Convention, and stronger, will flourish in coming global legal documents, and whether broader pronouncements of responsibilities could change the way international environmental law is constructed.

As shown in the above examples brought from the ECE and EC contexts, public participation, that is, a broadened basis for decision-making, is widely beginning to be thought to be beneficial for environmental policy and law, especially on the national level.[1097] Of course, the general public may be just as wise or unwise, just as farsighted or narrow-minded as its leaders and decision-makers. Therefore, the argument goes, pluralism and wide participation are needed to guarantee good decisions. Pluralism brings minority views and challenges to mainstream thinking. NGOs, activist citizens and a multitude of ideas and ideals are to make sure that sustainable environmental decisions are taken.[1098] Functioning democracy, where everyone has a chance to be heard and where openness and access to information are guaranteed in all directions are the best means of ensuring farsighted results. In principle, this may well be; but no degree of openness and access to information and no extent of pluralism in well-functioning democracy can as such guarantee wisdom. Despite their attractiveness, it remains that *access and public participation offer potential, not promise, of better environmental protection.*

***

4.4. An Assessment

The international legal development on rights of access to environmental information has followed a track which seems parallel to that of state-based dissemination of environmental information: the "first phase" of states' information duties came about in the 1980s and were mostly concerned with accidents and their mitigation; the "second phase" was the

[1097] E.g. Handl, G., 2001, p. 47, writes that participation is a precondition for a country being able to "pursue a course of sustainable development".

[1098] See Ranjan, S., 2001, p. 94, who writes that "[t]he NGOs have, by raising the issue of transboundary movements of hazardous wastes into India and ship-breaking, played a key role in monitoring the situation and alerting the public. Their vigilant role, not only in this context but also on other matters pertaining to environment in general, has brought about much needed transparency also within the governmental decision-making apparatus".

supervisory treaty-based information boom that started to blossom in the 1990s. The equivalent phases in access have been, first, a focus on states' "public information dissemination" of accident information and mitigation plans in the nearby community, embracing the idea that the effect of accurate and timely accident information will be limited unless citizens are aware of emergency response possibilities (provided such exist); second, broadened and more general access – transparency into - many kinds of environmental data, which implies an aspect of social and political control *post facto* by the public; third, regionally developed explicit rights of access to environmental information have been linked to public participation in decision-making at the national level (as opposed to political or judicial control afterwards). This links the issue to the future: it is participatory, anticipatory and aiming at influencing politics and law alike; Finally, the whole of this development towards individual rights of access to environmental information can be seen as a "third phase" in the entirety of international norms on environmental information.

There is now a trend in international law to develop access to environmental information and participation, mostly meant for the national level, but also opening up international treaties to greater transparency for NGOs (if not actual individual participation). The trend is reinforced by efforts in key international institutions to give some transparency into their activities. This trend is strong enough that one can begin to call it a "new culture of openness"; but the question whether it is beginning to be more than a political, psychological, social or other trend, a consolidation of the principles and aspirations into binding law, inevitably keeps an answer only at the regional level. The recent Johannesburg Plan of Implementation is a clear indication that many states are not yet willing to commit themselves to too much openness. On the ECE level the treaty development is crucial, but even considering somewhat widened notions on the formation of customary international law, it would seem strained to argue that an individual right of access to environmental information was yet more than on its way towards regional general international law. An explicit rights development is however not the only conceivable way to develop law and practice on access to environmental information: access can be enhanced through more active dissemination by states and through more voluntary information from industry and other actors. Here, the Johannesburg text offers some fresh emphasis on the role of private industry for transparency. In any case, the *quality* of any environmental information, rather

than necessarily its source or the basis of the original legal obligation, is crucial if institutions that are not directly accountable to the public are to become so.

There are also, and there is likely to continue to be, several restrictions to public access to environmental information and public participation: issues of national and environmental security, or industrial secrecy, and intellectual property rights along with the protection of personal data continue to play the most important roles. Public knowledge of safety measures could in itself be a safety risk, and future acts of sabotage or terrorism could come to influence, even jeopardize, current developments towards greater public access to environmental information, and therefore the whole development towards an "Open Society", this in addition to general incentives for secrecy and opposition to reform based on arguments that openness conflicts with administrative or legal traditions, which it may well do. On the other hand one can assume that it is difficult to stop a train already in motion. Neither first-stage nor second-stage state-centred information duties have satisfied the needs of the public, but public pressure for more open government continues in many countries, and new information technology presumably continues to raise expectations of more and better information access.

On the basis of the discussions in Chapters 2 and 3 above, it may be seductive to think that the state duty-based information sharing systems are hopelessly outdated, technological or bureaucratic in nature, and therefore, as by default, a rights-based development would seem more fresh, more promising. Yet this warrants caution. It may be that it is precisely the rights-based access that is unforgivably insufficient. Sometimes the information shared by states is the most accurate there is to be found. Accident-situations, whether local or in another country, can definitely not be handled by the random possibility that an individual/group would happen to request information. Also much general data on planned activities with potential transboundary effects would go unnoticed if strictly access rights-based. Any notions of rights also bring in the often conflicting notions of human needs *versus* nature's needs, and the anthropocentric development reinforces the paradox brought in by sustainable development, that "international environmental law" is not all about environment, but more about reconciling conflicting interests.

Environmental information can always be better: more accurate, more up-to-date, better presented, better put into its context, more holistic, more comprehensive and so on. In a

"new ethic" based on a culture of openness there would perhaps be less room for the mere "motions" of informing and more potential for enhanced quality control, which is all the more imperative in a time of over-load: with simplified accessibility greater quality information is increasingly on the demand, not least in the internet. Environmental information can therefore go beyond what is presented under the current managerial state-to-state model. This is the case for a more explicit individual right of access to environmental information. Legal arrangements, both national and international, can perhaps be ameliorated by diversified access to environmental information and the broadened understanding, knowledge or conviction generated by new information. A right of access to environmental information is an "empowerment right":[1099] it strengthens individual autonomy and competence to participate in decision-making,[1100] and it is therefore related to democracy as it is construed in the West today, and, at best, to the legitimacy of the national decision-making process. At best, it can escape the criticism of anthropocentricity, if used in favour of nature. A great deal of research effort has been put into the role of NGOs for international environmental law and policy,[1101] and some of it is characterized by strong idealism. Unfortunately, too often the research has concentrated only on environmental NGOs and forgotten the industry-based NGOs and the very diversity and pluralism it speaks of. On the international level, treaties and other cooperation arrangements concluded between states are checked on by peers, but precisely because the actors are states there needs to be a double check on the information presented. Treaty systems need outside - just as national governments need public[1102] - verification of many kinds, and NGOs and individuals alike can, especially through the media, be assumed

---

[1099] Note the "empowerment" language used in a publication by the NGO Friends of the Earth: "Arming NGOs with Knowledge: A Guide to the International Monetary Fund", at http://www.foe.org/international/imf/.

[1100] For this argument in relation to a general human right of access to information, see Suksi, M., 1997, p. 3.

[1101] See e.g. Taylor, P., 1984; Sands, P. & A. Bedecarré, 1990, pp. 799-822; Sands, P., 1991, pp. 61-68; Tolbert, D., 1991, pp. 95-108; Livernash, R., 1992, pp. 12-43; Kiss, A., 1992, pp. 14-15; Doherty, A., 1994, pp. 199-218; Sjöstedt, G., B.I. Spector & W. Zartman, 1994, pp. 233-249; ibid., pp. 3-19; Princen, T. & M. Finger, 1994; Schweitz, M.L., 1995, pp. 415-420; Sikkink, K., 1995, pp. 413-415; Ponce-Nava, D., 1995, pp. 131-140; Burhenne, W.E., 1995, pp. 207-219; Werksman, J., 1996; French, H, 1996, pp. 251-258; Cameron, J., 1997; Raustiala, K., 1997.

[1102] "Access to environmental information is a prerequisite to public participation in decision-making and to monitoring governmental and private sector activities", Kiss, A. & D. Shelton, 1993, p. 493; "Public participation is the key and without information this cannot be real. Information enables the public to make accountable those whose actions impact on the environment and those whose task it is to regulate them", Bakkeniste, G., 1993.

to have some constructive "supervising" role if they have rights of access to particular information.[1103] This does not mean that their legitimizing role would be more than limited: outside verification does not necessarily justify states' international decisions. On the other hand, broader participation in international environmental decision-making, if it develops further, could come to have normative implications.[1104]

Recent regional legal pronunciations have created a rhetoric chain of reasoning where information leads to awareness-raising, and public participation to accountability, and these two together are argued to be able to *improve the quality of the environment.* Such pronunciations do not make that assumption true, future developments followed by extensive cross- and interdisciplinary research – as complex, or even impossible, as measuring treaty "effectiveness" is - can tell if they have materialized. When speaking of the *amelioration* of environmental protection through enhanced individual access or rights to information, this is by definition an outlook which does not do away with the current managerial and anthropocentric way of international environmental law, but which rather recognizes a momentum for its development. The development must essentially happen through the national level, given the awkwardness of transplanting notions of individual participation, as opposed to some relatively limited forms of NGO participation, in international environmental decision-making. State-disseminated environmental information and individuals' rights of access to environmental information can therefore be seen as complementary rather than rivals.[1105] Where one is weak, the other can, and needs to, fill in. This is an interesting prospect for the future of international environmental protection and law, but it contains no guarantees. The exciting prospect is that a "new ethic" based on a culture of openness and individual rights to information could also develop further to imply broader, even individual, responsibilities for environmental protection at the local level. International law could be a vehicle towards such developments.

[1103] "Information is recognized as a prerequisite to effective national and international environmental management, protection, and co-operation", Sands, P., 1995, p. 596.

[1104] See generally polemic by Alvarez, J.E., 2001, e.g. on pluralist alternatives in norm-making and their relevance for the entire domain of international law, as against Slaughter's liberal theory and regulation via "transnational networks" and "transjudicial communication".

[1105] Further for a discussion on the necessity of political rights (and dignity of life and the rule of law) for environmental protection, and on complementary goals between the two fields of law, see Kane, M.J., 1993, pp. 389-411.

5. FINAL REMARKS

A Major Strategy

Few norms are so elementary in the structure of current international environmental law as those on information. Hardly any environmental treaties are concluded without them, the sheer number of relevant articles is massive, and hence an expectation of their importance arises. In the view of many writers, they are however hardly worthy of serious attention. The task set forth in this study has been to challenge that dismissal, to trace the development of norms on environmental information in public international law and to evaluate their role, their strengths and limits, in the evolution of international law on the environment. As the issue has unfolded, a development has come to be discussed that implies:

Firstly, a major strategy. Information exchange provisions – as manifestations of cooperation - have become a distinguishing feature of international environmental law. The development of environmental information provisions have been instrumental to the development of the whole area of international environmental law, first, in that the minimum contribution of earlier environmental information provisions have been as procedural steps on the way to stronger substantive norms, and second, in that they have become a major structural element or even strategy of the entire procedure-based structure of this area of law. Information provisions have transcended from the earliest enterprise of substantive international environmental law-making into a procedural effort to construct international law on the environment in terms of risk, uncertainty and ambiguity and in spite of many conflicting values. Information provisions have gone from being safe and simple bulk-material of older environmental treaties to procedures for risk-management when substantive norms have been too difficult to agree on, and on into the human rights arena and participative rights.

Secondly, the information topic is a good mirror of the state of the whole of international environmental law: information provisions are procedural, and their contents are often technical, rather than initially intended to be politicized. This applies especially to accident notifications, and various communications between national bureaucracies, but also to reports between treaty parties, which, as they are developed under most NCPs, are non-

confrontational and low-key. The procedural information schemes embody the contradictions and ambiguities present in international efforts to protect the global environment. This procedural and technical, i.e. cautious and flexible, construction is paradoxical, given what seeds of conflict environmental information could sow between states. Indeed it has been challenged in a few contexts, for instance in the form of the Bamako Convention, which with its total ban against hazardous waste imports into African fits poorly into the main structure of international environmental law, it breaks the managerial trend, and functions as an argument against procedure.

The more recent trend of developing individual rights of access to environmental information is e in some sense just an other facet of a procedural trend, but if contains a prospect where:

Thirdly, a chain of reasoning has developed in some international and regional legal documents where the rhetorically intended question of this study – *More Information, Better Environment?* – receives an affirmative answer. The chain links first information to awareness raising, which is then related to public participation and accountability, which is then said to lead to better decisions and even a better environment.

Fourthly, despite its modesty, the "information strategy" of international environmental law has come to play a role in the larger process of creating an Open Society. Although the enormous numbers of treaty provisions on information may well be proof of their total harmlessness for the states that first agreed on them, their aggregate effect is as building-blocks for a more Open Society. As states are increasingly pressured to provide more and better information, the role of the older provisions may be changing.

Fifthly, some rather serious doubts remain, however, and an evolving *culture of openness* must be followed by a renewed *ethic of responsibility* for all actors. There is plenty of room for *quality* environmental information, and it can only be hoped to make a difference for future environmental protection, as a constructive part in *the process of international environmental protection and law*. Doubts relate i.a. to anthropocentricity, problems of changing legitimacy, continued reluctance by many states and legal systems to promote openness, and actual access, especially in developing countries, to information technology. At any rate, openness is not a black-and-white issue: there are situations when precisely the

cause of the environment requires secrecy rather than access. Many restrictions to both information sharing and access exist and need to exist, *inter alia* for environmental reasons.

A Development in Three Phases

Greater environmental openness has, as argued here, developed in three different phases. The phases are not so much chronological as "psychological" steps of development. *The first phase* began symbolically with the *Corfu Channel* case and a very traditional international law approach to environmental issues, and fully matured in the wake of the drama around the Chernobyl accident and subsequent treaty developments. The duty of states to inform on accidents and other imminent dangers to the environment of other states is a strong rule of customary international law and it can also more fundamentally be argued to represent a general principle of law. The information requirement comes with criteria, such as timeliness and comprehensiveness and often with some exceptions of, for instance, defence and national or industrial security. The duty's main function is to mitigate environmental harm that is about to happen or already happening. Despite, or perhaps precisely because of, the fear that accident notifications only have a very modest role or marginal effect on actual environmental protection, this initial phase is well anchored in state practice: hence also raised expectations and public outcry when Russian authorities were reluctant to give timely and relevant information on the sinking of the *Kursk*, an accident that first seemed to have also environmental risks attached to it. Likewise, states owe each other a duty to inform on planned and ongoing activities with potential risk of transboundary environmental damage, and this entails some element of precaution, as opposed to the mostly mitigating approach of accident notifications. The strongest argument for the continued relevance of these information duties, particularly when considering the role of media and different forms of private tele-communication, is the relative "strength" of the state for effective dissemination of crucial information: usually still only the state may at best possess the means to monitor a whole country and all its activities, not the media or let alone individuals. These rules are thus a necessity, but this does not imply that centralized state-based environmental information dissemination is sufficient – far from it.

The accident information duties are manifestations of a managerial attitude to environmental protection: they are technology-centred and pragmatic, and do not deal with

the actual causes of pollution. They are on the one hand relics of an early stage of developing "international environmental law", when there was optimism as to the possibilities of creating legal ways of controlling environmental degradation and even ameliorate the environment, on the other hand their continuing development are evidence of some kind of "realism" in relation to risks which will not disappear. They offer psychological action against public fear, they provide an impression that even great risk is under control, but hardly lead to any far-reaching prevention and not necessarily even mitigation of potential pollution. A failure to inform should lead to state responsibility for breach of an international legal obligation, but states are still reluctant to resort to such demands. This was evident after the Chernobyl accident, and equally in lack of development of responsibility and liability schemes under environmental treaties during recent decades, the latter being another issue that points towards the marginal weight – or problematic nature at the very least - of international law for environmental protection. This reluctance has been a "breaking-point" also for the development of rules on environmental information, which have hence thrived in a different context, namely that of various supervisory verification and peer-review arrangements under environmental treaties.

The second phase: In contrast to the reluctance to resort to state responsibility in environmental matters, states have been active in developing softer, non-intrusive and non-judicial methods of dealing with the accountability of states in relation to treaty norms. The second phase of development of environmental information came with non-compliance procedures, NCPs, where different reporting requirements are the most commonly used method for gathering information on states' implementation of and compliance with particular environmental treaty obligations. Reports contents are usually dealt with in peer review organs, they accumulate great amounts of environmental data on varying levels of accuracy, and they may lead to some dialogue between treaty parties as to their successes and problems of implementation and compliance. Reports may have other functions as well, in relation to assessing and re-assessing state behaviour, and, although cause and effects are difficult to prove, perhaps in repressing non-compliance and in preventing environmental degradation if the report compilation at the national level is open and inclusive. Active efforts by treaty bodies and secretariats have in the last decade ameliorated the reporting systems under many treaties, and different funding and technical

aid schemes have helped especially developing countries in their reporting, but many problems also persist, not least in relation to un-submitted and low-quality information.

Increasingly, the contents of state reports are made public, and it is a new approach in this study to deal with reporting and other control methods not so much as "supervision proper" but rather as part of the larger trend of environmental information accumulation, and even as evidence of an emerging culture of openness. When looked at through these glasses, the cumbersome, old-fashioned and hopelessly bureaucratic reports may appear more interesting, because they add to the bulk of available environmental information. If reports are made public, it is then up not only to other states, but also to the public to react. Thus part of the responsibility of what to do with the information is left to those who read, or fail to read it. Supervision could therefore get a dimension beyond peer review: outside bodies, active NGOs, the media, and individuals, could gain a role of "verifying the verification" and news about state behaviour could spread and raise environmental consciousness, even where no formal access of individuals and NGOs exist to treaty bodies' review sessions. This could serve the cause of environmental protection.

However, much information can be left outside of state reports and many go unnoticed, unless first digested, simplified, by the media and/or active NGOs. To anyone concerned with the global environment, international cooperation through state information duties and reporting procedures may still seem to be the most painfully misconceived strategies. Reporting procedures are the epitome of a "managerial ethic", they hardly represent the cutting edge of prevention, and they add little to precaution. At worst, supervisory procedures merely create an illusion of relevant information, knowledge and "progress" and the value of going through the motions of supervision may be mostly symbolic. The example of the rather strong move among African states to ban hazardous waste trade altogether in the Bamako Convention can be seen as an example of a disapproval of too flexible information-exchange based managerial methods as means of ensuring environmental protection. But the waste trade example of the Basel Convention also points to the function of information procedures as first steps towards substantive rules, a function that, if an incremental development is accepted, is welcome in the further development of international legal constraints on environmental behaviour. This raises the question whether control mechanisms can ever be thought to "develop" an area of law as they are perhaps per definition confined to the pre-existing limits of the area. When control comes before

substantive rules development is truly pragmatic, and this is perhaps a dead-end, or a sign of crisis in that particular area of law. The abundance of norms on supervisory information exchange, together with the risk that the information produced is rather vacuous, may again be an indication of a marginalized role of international law for environmental protection. Luckily, a great deal of information is produced and disseminated by different actors outside of all legal and institutional arrangements. There is – hopefully - independent environmental information, and it has a valuable role in challenging the information that states produce.

Above all, however, the tremendous quantity of material produced under environmental treaties highlights a central dilemma in international law: if the norms that are being reported on are "good" (be it precise enough, general enough, up to date, etc.), then the information may be relevant as well, but if the substantive norms are "bad" (too precise, too general, out of date, ridiculously low targets, etc.), then information about compliance with them does not necessarily produce knowledge that is relevant for environmental protection, it could be outright misguiding. This classical dilemma functions to attract attention to the norms, not the information-gathering. A pendulum movement is born - questioning one (supervision) always means reviewing the other (norms) - and this dualist choice again acts as a "breaking-point", or a dead-end, on the road towards greater openness.

What is this dead-end, other than fatigue with environmental issues? Is there some way out? Although seemingly vigorously standing up for changes in states' environmental behaviour, the whole managerial trend may be more a sign of utter lack of imagination for issues environmental. Where then should such inspiration be found again? From catastrophes, hopefully not, from a new interest - well past the relative failures at Rio and Johannesburg - in norm-creation and the battles necessary for it, perhaps better? Or better yet, from something completely different, a "new ethic" of some kind? And how could any hopes for a "new ethic" possibly "break out of" and go beyond the traditional idealist challenge to realist choices? And is there no value in the present managerial attitude? The latter question can perhaps be answered by drawing a parallel to "technology belief" as it is often questioned in the same fashion: we are stuck with technology, modern society is dependent on it, and we cannot (and do not want to?) totally "go back to nature". Therefore the hope is that technology will develop even further, that it will be less raw-material and

energy consuming, and part of a solution to the problems it has created. Likewise, environmental information – part of a managerial ethic - can be assumed to have the potential to become a powerful tool in itself. Information takes many forms and comes from many sources, and the challenge for international legal information exchange arrangements between states is to live up to the standards of "independent" information sources. But in order for this to happen, it is vital to question the prospects. This is the case for greater access to environmental information and the watch-dog potential which it offers.

The third phase, which we are now entering alongside the continuing use of the first two methods, has some potential for the quality of environmental information. Openness and transparency are separate by a fine nuance: When there is transparency you can stand behind a window and watch what the others are deciding, but when there is openness, you can take the step over the threshold and join in. Openness thus involves a positive connotation, something to strive for, and it is at first easy to be sympathetic to the subject of greater public access to environmental information. International legal norms on individual access to environmental information are valuable firstly, because they may influence national legal systems in the direction of greater openness. Secondly, they may also have importance for international environmental protection through individuals' influencing and controlling national preparations for international decisions, and, when it is provided for under treaties, through greater access to information directly from treaty secretariats, expert bodies and Meetings of Parties. Above all, however, the development of access is a step towards a new culture of openness, a new mindset that, if opportunities are used and new ones created, could come to mean better environmental protection both locally and globally.

Rules on access to environmental information have developed both in national law and in international treaties, and an explicit individual right to environmental information is taking shape not only in the EU but also in the ECE region, not least because of the Aarhus Convention. Far from the existence of an explicit right in general international law, a train has nonetheless been put in motion - continuous demand in "Information Society" for more and better environmental information - and that train can probably not easily be stopped. One threat of stopping it comes from terrorism and the fears that it generates of vulnerability in an Open Society. Another threat may present itself if public access to contingency plans and environmental accident information is used to sabotage rather than

mitigate a particular situation. And indeed the regional rules on public access that are developing are by no means unrestricted. Precisely concerns for public security, defence, industrial secrecy and safety and intellectual property along with respect for the integrity of personal data are among the foremost limitations to access. The limitations may also function to diminish the fear that has been voiced in some contexts, that too much openness entails the risk that decision-making will flee to fora other than those intended. And, of course, the limitations may yet prove that not much has been achieved, all depending on how restrictively they will be applied.

The whole of this trend towards better access to environmental information is a breaking-point in the development of international law on the environment. It changes again (after the introduction of species, ecosystems and biodiversity, and then to the "opposite", sustainable development) the way the optimist notion of "international environmental law" is constructed. The Aarhus Convention and several other treaties have definitively moved environmental issues into the human rights arena. There is now more reason than ever to keep "international environmental law" in quotation marks as the area is even more fragmented between different irreconcilable needs. Or taking it further, the rights approach, together with sustainable development as it has been developed at Rio and Johannesburg, imply perhaps such fundamental consolidation of anthropocentric perspective that they result in a disappearance of "international *environmental* law" just shortly after there had been an impression that such a coherent notion was taking shape.

But the development is a breaking-point also because it is essentially a process of empowering individuals to challenge the present state of law and policy, action and inaction alike. Generating knowledge and understanding it is also a basis for public participation in decision-making, especially through EIAs, and one element of an emerging legitimacy in national environmental law-making, but perhaps through that also indicative of a shift in international environmental law-making. All in all, the role of openness and public participation is paradoxical from the point of view of the legitimacy of international environmental protection: since transparency, openness and public participation are part of a managerial trend, they are also part of a legitimacy problem as control and decision-making may be slowly drifting away from the state, but on the other hand, they are part of the "solution" in that they offer tools to check on other fundamentally managerial procedures in the hands of experts, scientists, international civil servants, and so on. While

information and access as such cannot create more than very weak legitimacy, any ensuing fights between different competing interests could create some narrowly understood aggregate legitimacy. Still, openness and rights of access and participation confer no legitimacy from nature's point of view, unless they are actually exercised on behalf of nature, which again presupposes a change of mind-set and a renewed sense of responsibility.

More Information - Better Environment?

Unfortunately, despite the chain of thought where more information is thought to lead to a better environment, there is still the fear that a stress on openness, and especially on rights of access to information, is euphoria and therefore premature or even utterly naïve. A "new ethic" or culture of openness is challenged by some cruel questions related not only to the wisdom of the public, as suggested above, but also to a western value-poverty in technology belief, to the risks of instant decisions, to the false impression that mere information equals action, and to the built-in logic restrictions that an anthropocentric approach imply for environmental questions. It is difficult to imagine, and perhaps even unwise to attempt, that individuals would gain that much more direct influence in or rights under international (as opposed to national) environmental decision-making, and, at any rate, there are threats to a more open society in the form of terrorism, and not least, in the form of reluctance by many, many governments still to agree with greater openness. Finally, therefore some concluding observations on information as a main strategy of international environmental law: as a co-operational-legal strategy, and part of a larger trend of proceduralization and management, the development of information systems to a bearing structure of international environmental law is faced with several continuous challenges:

Firstly, to actually contribute to environmental protection. A construction for conduct, it needs to lead to results, to overcome or deal with the many contradictory goals and conflicting values that environmental law is made of, but it is mostly doubtful whether it might actually do so.The effect of information on environmental quality is often difficult to assess, from within any discipline. Information certainly could be preventive (as in information on planned activities, which gives opportunity to conduct EIAs), and sometimes at least mitigative (as in accident information), and sometimes but more seldom precautionary, except in one crucial sense: it is mere knowledge/information of a risk rather

than scientific evidence about it that should activate precautionary measures. Information or lack thereof could have a clear relationship to state responsibility or civil liability, and in a moral sense, to the individual's responsibility when he has rights of access to environmental information.

Secondly, by its own technological "inevitability". Technology often equals information, that is, it is meant to be information-bearing, such as satellites and monitoring equipment. This technology has come to stay, and investments are powerful evidence of state (and private) practice in accruing information. On the other hand, the actual accessibility problem (not to mention literacy or other fundamental needs) is crucial, and needs of technology transfer remain, especially to many developing countries, to enhance global access to enabling technology. Failing this, the "information-strategy", which can probably no longer be separated from the technological aspect of it, could become a new separating line between developed and developing countries.

Thirdly, by political expectations of an open society: Information as a "strategy" was first, without any pronunciation of strategy, introduced as providing for soft steps towards substantive undertakings. Provisions were easy to agree on, there was will to develop them, as opposed to many substantive rules. But the information strategy has changed character, and that may still be met by opposition by many states, cultures and legal systems. While on the one hand a train for greater openness has been set in motion, one which is ultimately related to or part of globalization and the rising expectations of openness that it may entail, many are still reluctant - for various reasons for preferring continued secrecy - to jump that train. On the other hand, there are many legal exceptions and substantial limitations to states' environmental information duties and, where such exist, to individuals' rights of access, making the strategy weaker in some sense, but perhaps more realistic and acceptable.

Fourthly, to inspire to more voluntary information. First of all, the development towards greater rights of access for the individual is about to strengthen also the corresponding state duties to provide information. Access rights are complementary, not rivals, to state duties, they cannot fully substitute but only verify and pressure states. When states no longer have monopoly to environmental information, it is possible to imagine that the threshold for states being in breach of an information obligation will be lower. Again, this should

activate the law of state responsibility for failures to inform, but there are no convincing signs of such a development. Secondly, and more importantly, states will now not only have to fulfil all their legal duties *vis-à-vis* providing environmental information, they will also have to live up to the challenge of disseminating more *voluntary* information. This may be the most important outcome of the development of access rights through international law. Just as in human rights, change must come from within, but at best international law can sometimes help in the process of changing state, or international organizations', attitudes. The main incentives of states for openness, just as for secrecy, still have little to do directly with international law.

And finally, to embrace individual responsibility? If individuals gain more rights of access to information and then better means of participation in decision-making – if they are empowered - they also have new moral responsibility. Ignorance will be no defence, if all is served or available. The challenge will be to look actively for relevant information, to find out about what is going on, and then to make use, if possible, of any means of participation in decision-making. Also international law could be influenced through proactive individuals in their respective national political systems. This opens up an interesting scenario where the traditional practitioners of international law - the diplomats, the civil servants, the judges, scholars, and so on – could come to loose some of their role in interpreting and formulating the priorities, in "legitimising", legal development. The general "public" could also challenge the role of experts and scientists in the formulation and re-formulation of environmental goals and norms. There are of course no guarantees that the "general public" will act wisely, that it will question its own values, and, in any event, it may actually take state machinery or experts to sort out the "relevant" in information overload. The public could do away with the current managerial and anthropocentric way of international environmental law, or it could just recognize a momentum for its further development. In the end, greater access to environmental information could however come to have normative, and not only institutional, repercussions. The argument is thus that with genuine effort, information access, at both the national and international levels, could, if it generates new *ethical* choices, *a renewed sense of responsibility* and activism, offer some deeper qualitative change to environmental protection. It could help in giving meaning to and further develop many of the weak and contradictory basic principles of international environmental law. But it is an important point that a qualitative shift is *a prospect, not a promise*. This prospect means that a

strengthened focus on the public's access to information and consequent participation in decision-making and control (rather than only compulsory mantras about the importance of NGOs), enhanced pluralism of influences (rather than only state or expert control), and a new stress on legitimacy are likely to stay on the (Western liberal) political-legal agenda for some time to come.

Bibliography

Abate, D. & Shahid, A., 'Information and Knowledge Inputs: Combating Desertification in Africa and Transboundary Air Pollution In Europe', 24(2/3) *Environmental Policy and Law*, 1994, pp. 71-84.

Achterhuis, H., 'Scarcity and Sustainability', in W. Sachs, (ed.), *Global Ecology. A New Arena of Political Conflict*, London: Zed Books, 1993, pp. 104-116.

Activities Implemented Jointly: Partnerships for Climate Change and Development. International Energy Agency, Paris: OECD, 1997.

Adede, A.O., *The IAEA Notification and Assistance Conventions in Case of a Nuclear Accident. Landmarks in the Multilateral Treaty-Making Process.* London: Graham & Trotman, 1987.

Adede, A.O., 'Avoidance, Prevention and Settlement of International Environmental Disputes', *Environmental Law for Sustainable Development*, UNEP, 1995.

Adler, E. & P.M. Haas, 'Conclusion: Epistemic Communities, World Order, and the Creation of a Reflective Research Program', 46(1) *International Organization*, 1992, pp. 367-390.

Aguilar, A.F., 'Enforcing the Right to a Healthy Environment in Latin America', 3-4 *Review of European Community and International Environmental Law* 1994.

Akehurst, M.B., 'Custom as a Source of International Law', 47 *British Yearbook of International Law* 1974/75, pp. 1-53.

Akehurst, M.B., 'International Liability for Injurious Consequences Arising Out of Acts Not Prohibited by International Law', XVI *Netherlands Yearbook of International Law* 1985 pp. 3-16.

Alexander, D., 'Freedom of Access to Information on the Environment', 140(6472) *New Law Journal*, 1990, pp. 1315-1316.

Alfredson, G. & A. Ovsiouk, 'Human Rights and the Environment', 60 *Nordic Journal of International Law*, 1991, pp. 19-27.

Alston, P., 'The Purposes of Reporting', in *Manual on Human Rights Reporting Under Six Major International Human Rights Instruments*, United Nations, New York, 1991, HR/PUB/91/1.

Alston, P., 'Conjuring Up New Human Rights: A Proposal for Quality Control', in A. Carty, ed., *Law and Development*, Aldershot: Dartmouth, 1992, pp. 207-221.

Alston, P., ed., *The United Nations and Human Rights. A Critical Appraisal.* Oxford: Clarendon Press, 1992.

Alston, P., 'Establishing Accountability: Some Current Challenges in Relation to Human Rights Monitoring', in E. Verhellen, ed., *Monitoring Children's Rights*, Dordrecht: Kluwer Law International, 1996, pp. 21-31.

Alston, P. & J. Crawford eds., *The Future of UN Human Rights Treaty Monitoring*, Cambridge, Cambridge University Press, 2000.

Alston, P., 'Beyond "Them" and "Us": Putting Treaty Body Reform Into Perspective', in Alston, P. & J. Crawford eds., *The Future of UN Human Rights Treaty Monitoring*, Cambridge, Cambridge University Press, 2000, pp. 501-525.

Alston, P., 'Charging for Access to International Law Treaty Information: Time for the UN to Rethink a Perverse Initiative', 12(2) *European Journal of International Law*, 2001, pp. 351-358.

Alvarez, J.E., 'The Quest for Legitimacy: An Examination of *The Power of Legitimacy among Nations*', 24 *New York University Journal of International Law and Politics*, 1991, pp. 242-243.

Alvarez, J.E., 'Do Liberal States Behave Better? A Critique of Slaughter's Liberal Theory', 12(2) *European Journal of International Law*, 2001, pp. 183-246.

Amato, A.L., 'The Valdez Principles: A Corporate Self-Governance Code on Environmental Conduct', 2(1) *Georgetown International Environmental Law Review*, 1989, pp. 237-246.

Andersen, S.S., & K.A. Eliassen, eds., *The European Union: How Democratic Is It?*, London: Sage Publications, 1996.

Anderson, K., 'The Ottawa Convention Banning Landmines, the Role of International Non-governmental Organizations and the Idea of International Civil Society'. 11(1) *European Journal of International Law*, 2000, pp. 91-120.

Anderson, M., 'Individual Rights to Environmental Protection in India', in Boyle, A. & M. Anderson, eds., *Human Rights Approaches to Environmental Protection*, Oxford: Clarendon Press, 1996, pp. 199-225.

Arsanjani, M.H., 'The Diversity of Goals in International Environmental Codification', 18(1989) *Canadian Council of International Law: Proceedings*, 1990, pp. 170-178.

Asculai, E. & H.E. Collins, 'The IAEA's Emergency Assistance Services. Report on the Development and Procedures of an Improved Emergency Response System', 3 *IAEA Bulletin*, 1988, pp. 22-26.

Ausubel, J.H. & D.G. Victor, 'Verification of International Environmental Agreements', 17 *Annual Review of Energy and the Environment*, 1992, pp. 1-43.

Ayling, J., 'Serving Many Voices: Progressing Calls for an International Environmental Organization', 9(2) *Journal of Environmental Law*, 1997,pp. 243-269.

Baker, B., 'Eliciting Non-Party Compliance With Multilateral Environmental Treaties: U.S. Legislation and the Jurisdictional Bases for Compliance Incentives in the Montreal Ozone Protocol', 35 *German Yearbook of International Law*, 1992, pp. 333-365.

Baker, R., 'Institutional Innovation, Development and Environmental Management: an 'Administrative Trap' Revisited', 9 *Public Administration and Development*, 1989, Part I, pp. 29-47; Part II, pp. 159-167.

Bakkenist, G., 'Freedom of Access to Information on the Environment – a Comparison of the Approach in the European Community and Agenda 21', in Conference: *Human Rights Approaches to Environmental Protection in the Commonwealth and Beyond*, London, Commonwealth Institute, 27-28 May 1993.

Bakkenist, G., *Access to Environmental Information*, Cameron & May, 199.

Balton, D.A., 'The Convention on the Rights of the Child: Prospects for International Enforcement', 12 *Human Rights Quarterly*, 1990, pp. 120-129.

Bank, R., 'Country-Oriented Procedures under the Convention Against Torture: Towards a New Dynamism', in Alston, P. & J. Crawford eds., *The Future of UN Human Rights Treaty Monitoring*, Cambridge, Cambridge University Press, 2000, pp. 145-174.

Banton, M., Alston, P. & J. Crawford eds., *The Future of UN Human Rights Treaty Monitoring*, Cambridge, Cambridge University Press, 2000, pp. 55-78.

Baram, M.S., 'Risk Communication Law and Implementation Issues in the United States and the European Community', in M.S. Baram & D.G. Partan, eds., *Corporate Disclosure of Environmental Risks. U.S. and European Law*. Salem: Butterworth Legal Publishers, 1990, pp. 65-88.

Barboza, J., 'International Liability for the Injurious Consequences of Acts Not Prohibited by International Law and Protection of the Environment', 247 *Recueil des cours* (1994-III), pp. 295-405.

Barratt, R. & H. Enmarch-Williams, 'Major Industrial Accident Hazards and the Proposed New "Seveso" Directive', 3 *European Environmental Law Review*, 1994, pp. 195-199.

Barrett, J., 'The Negotiation and Drafting of the Climate Change Convention', in R. Churchill & D. Freestone, eds., *International Law and Global Climate Change*, London: Graham & Trotman, 1991, pp. 183-200.

Baur, D.C. & S. Iudicello, 'Stemming the Tide of Marine Debris Pollution: Putting Domestic and International Control Authorities to Work' 17(1) *Ecology Law Quarterly* 1990, pp. 71-142.

Baxi, U., 'Taking Suffering Seriously: Social Action Litigation in the Supreme Court of India', in *The Role of the Judiciary in Plural Societies*, London, 1987, pp. 32-60.

Bayefsky, A., 'Making the Human Rights Treaties Work', in L. Henkin & J. Hargrove, eds., *Human Rights: An Agenda for the Next Century*, Washington D.C., 1994, pp. 229-295.

Beck, U., *Risk Society: Towards a New Modernity*, London, Sage 1992.

Beck, U., *Ecological Politics in an Age of Risk*, Cambridge: Polity Press, 1995.

Beckerman, W., 'Economic Growth and the Environment: Whose Growth? Whose Environment?', 20(4) *World Development*, 1992, pp. 481-496.

Betlem, G., *Civil Liability for Transfrontier Pollution. Dutch Environmental Tort Law in International Cases in the Light of Community Law*, London: Graham & Trotman, 1993.

Betlem, G., 'Review of: White Paper on Environmental Liability, Commission of the European Communities [COM(2000)66 final, 9.2 2000]', 12(3) *Journal of Environmental Law* 2000, pp. 405-407.

Bernhardt, R., 'Ungeschriebenes Völkerrecht', 36 *Zeitschrift für ausländisches öffentliches Recht und Völkerrecht* 1976, pp. 50-76.

Beyerlin, U., 'The Concept of Sustainable Development', in R. Wolfrum, ed., *Enforcing Environmental Standards. Economic Mechanisms as Viable Means?*, Berlin: Springer Verlag, 1996, pp. 95-121.

Billet, J., *Croissance et environnement*, Paris: Conseil Economique et Social, *Journal Officiel de la République Francaise*, 1998.

Birnie, P. & A. Boyle, *International Law and the Environment*. Oxford: Clarendon Press, 1992; 2nd ed. 2002.

Birnie, P. & A. Boyle, *Basic Documents on International Law and the Environment*. Oxford: Clarendon Press, 1995.

Bissell, R.E., 'Recent Practice of the Inspection Panel of the World Bank', 91(4) *American Journal of International Law*, 1997, pp. 741-744.

Bloed, A. *et al.* eds., *Monitoring Human Rights in Europe. Comparing International Procedures and Mechanisms*. Dordrecht: Martinus Nijhoff, 1993.

Bloed, A., ed., *The Conference on Security and Co-operation in Europe. Analysis and Basic Documents, 1972-1993*. Dordrecht: Kluwer Academic Publishers, 1993.

Blokker, N. & S. Muller, 'Towards More Effective Supervision - A General Introduction', in N. Blokker & S. Muller (eds.), *Towards More Effective Supervision by International Organizations. Essays in Honour of Henry G. Schermers*, Vol. 1, Dordrecht: Martinus Nijhoff Publishers, 1994, pp. 1-6.

Blokker, N. & S. Muller, 'Towards More Effective Supervision by International Organizations. Some Concluding Observations', in N. Blokker & S. Muller (eds.), *Towards*

More Effective Supervision by International Organizations. Essays in Honour of Henry G. Schermers, Vol. 1, Dordrecht: Martinus Nijhoff Publishers, 1994, pp. 275-311.

'A Blueprint for Survival', *The Ecologist*, 1972.

Bodansky, D., 'The Role of Reporting in International Environmental Treaties: Lessons for Human Rights Supervision', in Alston, P. & J. Crawford eds., *The Future of UN Human Rights Treaty Monitoring*, Cambridge, Cambridge University Press, 2000, pp. 361-380.

Bodansky, D., 'The Legitimacy of International Governance: A Coming Challenge for International Environmental Law?', 93(3) *American Journal of International Law*, 1999, pp. 596-624.

Bodansky, D., 'What's So Bad about Unilateral Action to Protect the Environment?', 11(2) *European Journal of International Law* 2000, pp. 339-347.

Boehmer-Christiansen, S., 'Scientific Uncertainty and Power Politics: The Framework Convention on Climate Change and the Role of Scientific Advice', in B.I. Spector et al. (eds.), *Negotiating International Regimes: Lessons Learned from the United Nations Conference on Environment and Development*, London: Graham & Trotman, 1994, pp. 181-198.

Boisson de Chazournes, L., 'Analysis and Evaluation of Monitoring and Compliance Procedures of International Environmental Law', Paper at Ministerial Conference on "Environment for Europe", Luzerne, April 1993.

Boisson de Chazournes, L., 'La mise en oeuvre du droit international dans le domaine de la protection de l'environnement: enjeux et défis', 1 *Revue Générale de Droit International Public*, Janvier-Avril 1995, pp. 37-76.

Boisson de Chazournes, L., 'Le Fonds pour l'environnement mondial: recherche et conquête de son identité', 41 *Annuaire Francais de Droit International* 1995, pp. 612-632.

Boisson de Chazournes, L., 'The, United Nations Framework Convention on Climate Change: On the Road Towards Sustainable Development', in R. Wolfrum, ed., *Enforcing Environmental Standards. Economic Mechanisms as Viable Means?*, Berlin: Springer Verlag, 1996, pp. 285-300.

Boisson de Chazournes, L. & P. Sands, eds., *International Law, the International Court of Justice and Nuclear Weapons*, Cambridge University Press, 1999.

Boisson de Chazournes, L., 'Unilateralism and Environmental Protection: Issues of Perception and Reality of Issues', 11(2) *European Journal of International Law* 2000, pp. 315-338.

Boisson de Chazournes, L., 'Policy Guidance and Compliance: The World Bank Operational Standards', in Shelton, D., ed., *Commitment and Compliance: The Role of Non-Binding Norms in the International Legal System.* Oxford: Oxford University Press, 2000, pp. 281-303.

Bothe, M. (ed.), *Trends in Environmental Policy and Law*. Berlin: Erich Schmidt Verlag, 1980.

Bothe, M., 'Transfrontier Environmental Management' in M. Bothe ed., *Trends in Environmental Policy and Law*, 1980.

Bothe, M., N., Ronzitti, & A. Rosas, eds., *The New Chemical Weapons Convention – Implementation and Prospects*, The Hague: Kluwer, 1998.

Bothe, M., 'International Regulation of Transboundary Movement of Hazardous Waste', 33 *German Yearbook of International Law* (1990) pp. 422-431.

Bothe, M., 'The Evaluation of Enforcement Mechanisms in International Environmental Law', in R. Wolfrum, ed., *Enforcing Environmental Standards. Economic Mechanisms as Viable Means?*, Berlin: Springer Verlag, 1996, pp. 13-38.

Bourrinet, J. ed., *Wildland Fires and the Law: Legal Aspects of Forest Fires Worldwide*. Dordrecht, 1992.

van Boven, T.C., 'Survey of the Positive International Law of Human Rights', in K. Vasak ed., *The International Dimensions of Human Rights*. Paris: UNESCO, 1982.

Boyle, A., 'Marine Pollution under the Law of the Sea Convention', 79 *American Journal of International Law*, 1985, pp. 347-372.

Boyle, A., 'State Responsibility and International Liability for Injurious Consequences of Acts Not Prohibited by International Law: A Necessary Distinction?', 39 *International and Comparative Law Quarterly* 1990 a, pp. 1-26.

Boyle, A., 'Chernobyl and the Development of International Environmental Law', in W.E. Butler, ed., *Perestroika and International Law*, Dordrecht: Kluwer Academic Publishers, 1990 b, pp. 203-219.

Boyle, A., 'International Law and the Protection of the Global Atmosphere: Concepts, Categories and Principles', in R. Churchill & D. Freestone, eds., *International Law and Global Climate Change*, 1991, pp. 7-19.

Boyle, A., 'Saving the World? Implementation and Enforcement of International Environmental Law Through International Institutions', 3 *Journal of Environmental Law* 1991, pp. 229-245.

Boyle, A., 'State Responsibility for Breach of Obligations to Protect the Global Environment', in W.E. Butler, ed., *Control over Compliance with International Law*, Dordrecht: Martinus Nijhoff, 1991 a, pp. 69-81.

Boyle, A., 'Making the Polluter Pay? Alternatives to State Responsibility in the Allocation of Transboundary Environmental Costs' in Francioni, F. and T. Scovazzi, eds., *International Responsibility for Environmental Harm*, London: Graham & Trotman, 1991 b, pp. 363-379.

Boyle, A., 'Human Rights and the Protection of the Environment: An Overview', in Conference: *Human Rights Approaches to Environmental Protection in the Commonwealth and Beyond*, London, Commonwealth Institute, 27-28 May 1993.

Boyle, A., 'The Principle of Co-operation: The Environment', in *The United Nations and the Principles of International Law: Essays in Memory of Michael Akehurst*, London: Routledge, 1994, pp. 120-136.

Boyle, A. 'Economic Growth and Protection of the Environment: The Impact of International Law and Policy', in A. Boyle, ed., *Environmental Regulation and Economic Growth*, Oxford: Clarendon Press, 1994, pp. 173-188

Boyle, A., 'The Convention on Biological Diversity', in L. Campiglio, *et al.* (eds.), *The Environment after Rio: International Law and Economics*, London: Graham & Trotman, 1994, pp. 111-127.

Boyle, A. & M. Anderson, eds., *Human Rights Approaches to Environmental Protection*, Oxford: Clarendon Press, 1996.

Boyle, A., 'The Role of International Human Rights Law in the Protection of the Environment', in Boyle, A. & M. Anderson, eds., *Human Rights Approaches to Environmental Protection*, Oxford: Clarendon Press, 1996, pp. 43-69.

Boyle, A., 'The Gabcikovo-Nagymaros Case: New Wine in Old Bottles?', 8 *Yearbook of International Environmental Law*, 1997, p. 13-

Boyle, A. & D. Freestone, eds., *International Law and Sustainable Development – Past Achievements and Future Challenges*, Oxford: Oxford University Press, 1999.

Boyle, A., 'Codification of International Environmental Law and the International Law Commission: Injurious Consequences Revisited', in Boyle, A. & D. Freestone, eds., *International Law and Sustainable Development – Past Achievements and Future Challenges*, Oxford: Oxford University Press, 1999, pp. 61-85.

Brady, K., 'New Convention on Access to Information and Public Participation in Environmental Matters', 28 *Environmental Policy and Law,* 1998, pp. 69-

Bradlow, D. & S. Schlemmer-Schulte, 'The World Bank's New Inspection Panel', 54 *Zeitschrift für Ausländishes öffentliches Recht und Völkerrecht* 1994, pp. 392-

Breitmeier, H. *et al.*, 'Environmental Regimes Database', International Institute for Applied Systems Analysis: Background paper given at 36th Annual Convention of the International Studies Association, Chicago, 25.2 1995.

Brett, R., 'The Contribution of NGOs to the Monitoring and Protection of Human Rights in Europe: an Analysis of the Role and Access of NGOs to the Inter-governmental Organisations', in A. Bloed et al eds., *Monitoring Human Rights in Europe. Comparing International Procedures and Mechanisms*. Dordrecht: Martinus Nijhoff, 1993, pp. 121-144.

Broms, B., 'The Nordic Convention on the Protection of the Environment', in Flinterman, C. et al., eds. *Transboundary Air Pollution. International Legal Aspects of the Co-operation of States*. Dordrecht: Martinus Nijhoff Publishers, 1986, pp. 141-.

Brown Weiss, E. 'Environmental Disasters in International Law', *Anuario Juridico Interamericano*, 1986.

Brown Weiss, E., *In Fairness to Future Generations: International Law, Common Patrimony, and Intergenerational Equity*. Tokyo: United Nations University, 1989.

Brown Weiss, E., 'Our Rights and Obligations to Future Generations for the Environment', 84 *American Journal of International Law* 1990, pp. 198-207.

Brown Weiss, E., 'New Directions in International Environmental Law', paper presented at the United Nations Congress on Public International Law, New York, March 15 1995.

Brown Weiss, E., 'Environmental Equity: The Imperative for the Twenty-First Century', in W. Lang (ed.), *Sustainable Development and International Law*, London: Graham & Trotman, 1995, pp. 17-33.

Brown Weiss, E., *Compliance with International Environmental Agreements*, Irvington, New York: Transnational Publishers, 1995.

Brown Weiss, E., 'Understanding Compliance with International Environmental Agreements: The Baker's Dozen Myths', 32 *University of Richmond Law Review* 1999, pp. 1555-

Brown Weiss, E., 'Opening the Door to the Environment and to Future Generations', in Boisson de Chazournes, L. & P. Sands, eds., *International Law, the International Court of Justice and Nuclear Weapons*, Cambridge University Press, 1999, pp. 338-353.

Brownlie, I., *Principles of Public International Law*. 4th ed. Oxford: Clarendon Press, 1990.

Bruha, T., 'Internationale Regelungen zum Schutz vor technisch-industriellen Umweltnotfällen', 44(1) *Zeitschrift für ausländisches öffentliches Recht und Völkerrecht* 1984, pp. 1-63.

Brunnée, J., *Acid Rain and Ozone Layer Depletion: International Law and Regulation*. Dobbs Ferry: Transnational Publishers, 1988.

Buergenthal, T., *International Human Rights in a Nutshell*, St. Paul: West Publishing Co., 2nd ed., 1995.

Bunyan, T., *Secrecy and Openness in the EU*, London: Kogan Page, 1999.

Burhenne, W.E., ' The Role of NGOs', in W. Lang (ed.), *Sustainable Development and International Law*, London: Graham & Trotman, 1995, pp. 207-219.

Bustelo, M., 'The Committee on the Elimination of Discrimination Against Women at the Crossroads', in Alston, P. & J. Crawford eds., *The Future of UN Human Rights Treaty Monitoring*, Cambridge, Cambridge University Press, 2000, pp. 79-111.

Butler, W.E. (ed.), *Control over Compliance with International Law*. Dordrecht: Martinus Nijhoff, 1991.

Cameron, J. & J. Abouchar, 'The Precautionary Principle: A Fundamental Principle of Law and Policy for the Protection of the Global Environment', 14 *Boston College International and Comparative Law Review*, 1991, pp. 1-27.

Cameron, J. & W. Wade-Gery, 'Addressing Uncertainty, Law, Policy and the Development of the Precautionary Principle', CSERGE Working Paper GEC 92-42.

Cameron, J., 'Compliance, Citizens and NGOs' in Cameron, J., *et al.* eds., *Improving Compliance with International Environmental Law*, 1997, pp. 29-42.

Cameron, P., et al., *Nuclear Energy Law After Chernobyl*. London: Graham & Trotman, 1988.

Cameron, P., 'The Vienna Conventions on Early Notification and Assistance', in P. Cameron et al. eds., *Nuclear Energy Law After Chernobyl*. London: Graham & Trotman, 1988, pp. 19-32.

Cameron, P. & D. Zillman, eds., *Kyoto: From Principles to Practice.* The Hague: Kluwer International, 2001.

Cameron, P., 'The Kyoto Process: Past, Present and Future', in Cameron, P. & D. Zillman, eds., *Kyoto: From Principles to Practice.* The Hague: Kluwer International, 2001, pp. 3-23.

Campbell, D., ed., *Environmental Hazards and Duties of Disclosure*. London: Graham and Trotman, 1994.

Cancado Trindade, A., 'Co-existence and Co-ordination of Mechanisms of International Protection of Human Rights', 202(11) *Académie de droit international: Recueil des Cours*, 1987, pp. 9-435.

Cancado Trindade, A., ed., *Human Rights, Sustainable Development and the Environment*, San José: Instituto Interamericano de Derechos Humanos, 1992.

Carraro, C., A. Lanza & A. Tudini, 'Technological Change, Technology Transfers, and the Negotiation of International Agreements', 6(3) *International Environmental Affairs*, 1994, pp. 203-222.

Carson, R., *Silent Spring*, Boston, Houghton Mifflin Company, 1962.

Cassels, J., *The Uncertain Promise of Law: Lessons from Bhopal*, University of Toronto Press, 1993.

Cassese, A., *Human Rights in a Changing World.* Cambridge: Polity Press, 1990.

Cassese, A., 'The European Committee for the Prevention of Torture and Inhuman or Degrading Treatment or Punishment Comes of Age', in N. Blokker & S. Muller (eds.), *Towards More Effective Supervision by International Organizations. Essays in Honour of Henry G. Schermers*, Vol. 1, Dordrecht: Martinus Nijhoff Publishers, 1994?, pp. 115-125.

Charbonneau, S., 'L'acceptabilité du risque d'accident technique majeur', 3 *Revue juridique de l'environnement* 1989, pp. 269-284.

Charpentier, J., 'Le contrôle par les organisations internationales de l'exécution des obligations des états', 182 *Académie de droit international: Recueil des Cours*, pp. 147-245.

Charlesworth and Percy on Negligence, 7th ed. R.A. Percy. London: Sweet and Maxwell, 1983.

Chayes, A. & A.H. Chayes, 'From Law Enforcement to Dispute Settlement: A New Approach to Arms Control Verification and Compliance', 14(4) *International Security*, 1990, pp. 147-164.

Chayes, A. & A.H. Chayes, 'Adjustment and Compliance Processes in International Regulatory Regimes', in J. Tuchman Mathews, ed., *Preserving the Global Environment. The Challenge of Shared Leadership*, New York: W.W. Norton & Co., 1991, pp. 280-308.

Chayes, A. & A.H. Chayes, 'Compliance without Enforcement: State Behaviour under Regulatory Treaties', 7 *Negotiation Journal*, 1991, pp. 311-330.

Chayes, A. & A.H. Chayes, *The New Sovereignty. Compliance with International Regulatory Agreements*. Cambridge, Massachusetts: Harvard University Press, 1995.

Chayes, A., E. Skolnikoff & D. Victor, 'A Prompt Start: Implementing the Framework Convention on Climate Change'. *A Report from the Bellagio Conference on Institutional Aspects of International Co-operation on Climate Change*, 28-30 January 1992. MIT Center for International Studies.

Churchill, R.R. & A.V. Lowe, *The Law of the Sea*, Manchester: Manchester University Press, 1988.

Churchill, R. & D. Freestone, eds., *International Law and Global Climate Change*, London: Graham & Trotman, 1991.

Churchill, R., 'Controlling Emissions of Greenhouse Gases', in R. Churchill & D. Freestone, eds., *International Law and Global Climate Change*, London: Graham & Trotman, 1991, pp. 147-163.

Churchill, R.R., G. Kütting, L.M. Warren, 'The 1994 UN ECE Sulphur Protocol', 7(2) *Journal of Environmental Law*, 1995, pp. 169-197.

Clapham, A., 'UN Human Rights Reporting Procedures: An NGO Perspective', in Alston, P. & J. Crawford eds., *The Future of UN Human Rights Treaty Monitoring*, Cambridge, Cambridge University Press, 2000, pp. 175-198.

Cock, J. & Koch, E.: *Going Green: People, Politics and the Environment in South Africa.* Cape Town: Oxford University Press, 1991.

Cohen, C.P. *et al.*, 'The UN Convention on the Rights of the Child: Developing an Information Model to Computerize the Monitoring of Treaty Compliance', 14 *Human Rights Quarterly*, 1992, pp. 216-231.

Cohen, J. & C. Sabel, 'Directly-Deliberate Polyarchy', 3(4) *European Law Journal*, 1997, pp. 313-342.

Coicaud, J-M & V. Heiskanen, eds., *The Legitimacy of International Organizations*, Tokyo, New York, Paris: United Nations University Press, 2001.

Coldham, S., 'Legal Responses to State Corruption in Commonwealth Africa', 39(2) *Journal of African Law* 1995, pp. 115-126.

Collier, J. & V. Lowe, *The Settlement of Disputes in International Law: Institutions and Procedures*. Oxford: Oxford University Press, 1999.

Conable, B.B., 'Development and the Environment: a Global Balance', 5 *American University Journal of International Law and Policy* 1990, pp. 235-

Cowen, D.V., 'Toward Distinctive Principles of South African Environmental Law: Some Jurisprudential Perspectives and a Role for Legislation', 52 *Tydscrif Vir Hedendaagse* 1989, pp. 3-31.

Craig, P.P. & S.L. Deshpande, 'Rights, Autonomy and Process: Public Interest Litigation in India', 9(3) *Oxford Journal of Legal Studies*, 1989, pp. 356-373.

Craven, M., 'Towards and Unofficial Petition Procedure: A Review on the Role of the UN Committee on Economic, Social and Cultural Rights', in Drzewicki, K, C. Krause, & A. Rosas, eds., *Social Rights as Human Rights. A European Challenge*, Åbo: Institute for Human Rights, Åbo Akademi University, 1994, pp. 91-113.

Crawford, J., 'Revising the Draft Articles on State Responsibility', 10(2) *European Journal of International Law*, 1999, pp. 435-460.

Crawford, J., 'The UN Human Rights Treaty System: A System in Crisis?', in Alston, P. & J. Crawford eds., *The Future of UN Human Rights Treaty Monitoring*, Cambridge, Cambridge University Press, 2000, pp. 1-12.

Crawford, J., & P. Bodeau, 'Second Reading of the ILC Draft Articles on State Responsibility: Further Progress', 2 *International Law FORUM du droit international*, 2000, pp. 45-54.

Crawford, J., J. Peel & S. Olleson, 'The ILCs Articles on Responsibility of States for Internationally Wrongful Acts: Completion of the Second Reading', 12 *European Journal of International Law*, 2001, pp. 964-991.

Dahl, R.A., 'A Democratic Dilemma: System Effectiveness Versus Citizen Participation', 109 *Political Science Quarterly* 1994.

D'Amato, A., *International Law: Process and Prospects.* Dobbs Ferry: Transnational Publishers, 198.

D'Amato, A., *The Concept of Custom in International Law.* Ithaca, London: Cornell University Press, 1971.

D'Amato, A., 'Do We Owe a Duty to Future Generations to Preserve the Global Environment?', 84 *American Journal of International Law*, 1990, pp. 190-198.

Dana, L., *A Citizen's Guide to the World Bank Inspection Panel*, 2nd ed., 1999.

Danilenko, G.M., 'Implementation of International Law in CIS States: Theory and Practice', 10(1) *European Journal of International Law* 1999, pp. 51-69.

Deckmyn, V. & I. Thomson, eds., *Openness and Transparency in the European Union*, Maastricht: European Institute of Public Administration, 1998.

Dembo, D. *et al.*, eds.: *Nothing to Loose but Our Lives. Empowerment to Oppose Industrial Hazards in a Transnational World.* New York: New Horizons Press, 1987.

Desai, B., 'Enforcement of Human Rights to Environment Protection: A Role of Public Interest Litigation in India', in Conference: *Human Rights Approaches to Environmental Protection in the Commonwealth and Beyond*, London, Commonwealth Institute, 27-28 May 1993.

Desgagné, R., 'Integrating Environmental Values into the European Convention on Human Rights', 89(2) *American Journal of International Law* 1995, pp. 263-294.

Dimitrijevic, V., 'The Monitoring of Human Rights and the Prevention of Human Rights Violations through Reporting Procedures', in A. Bloed et al eds., *Monitoring Human Rights in Europe. Comparing International Procedures and Mechanisms.* Dordrecht: Martinus Nijhoff, 1993, pp. 1-24.

Doeker, G. & T. Gehring, 'Private or International Liability for Transnational Environmental Damage. The Precedent of Conventional Liability Regimes', 2(1) *Journal of Environmental Law*, 1990, pp. 1-16.

Doerffer, J.W., *Oil Spill Response in the Marine Environment.* Oxford: Pergamon Press, 1992.

Doherty, A., 'The Role of Nongovernmental Organizations in UNCED', in B.I. Spector et al. (eds.), *Negotiating International Regimes: Lessons Learned from the United Nations*

Conference on Environment and Development, London: Graham & Trotman, 1994, pp. 199-218.

Dominicé, C., 'The International Responsibility of States for Breach of Multilateral Obligations', 10(2) *European Journal of International Law*, 1999, pp.353-363.

Donlon, N., 'Prospects for the Verification of the Environmental Protection Protocol to the Antarctic Treaty', in J.B. Poole & R. Guthrie (eds.), *Verification Report 1992. Yearbook on Arms Control and Environmental Agreements*, London: VERTIC, 1992, pp. 257-164.

Dormenval, A., *Procedures onusiennes de mise en oeuvre des droits de l'homme: limites ou défauts?*, Geneve: Publications de l'institut universitaire de hautes études internationales, 1991.

Dorn, A.W. & D. Scott, *The Compliance Provisions in the Chemical Weapons Convention: A Summary and Analysis*, Geneva: Programme on Strategic and International Security Studies (PSIS), Graduate Institute of International Studies, Occasional Paper Number 2/1995.

Doud, A.L., 'International Environmental Developments: Perceptions of Developing and Developed Countries', 12 *Natural Resources Journal*, 1972, pp. 520-529.

Drel, M.I., 'Enforcement Measures against Pollution of the Sea, (July) *Marine Policy* 1988.

Drzewicki, K., 'National Legislation as a Measure for Implementation of International Humanitarian Law', in F. Kalshoven & Y. Sandoz eds., *Implementation of International Humanitarian Law*, Dordrecht: Martinus Nijhoff, 1989, pp. 109-131.

Drzewicki, K., 'Reporting Mechanisms for Supervision of National Legislation Implementing International Humanitarian Law', in A.J.M. Delissen & G.J. Tanja eds., *Humanitarian Law of Armed Conflict: Challenges Ahead.* Essays in Honour of Frits Kalshoven. Dordrecht: Martinus Nijhoff, 1991, pp. 545-564.

Drzewicki, K, C. Krause, & A. Rosas, eds., *Social Rights as Human Rights. A European Challenge*, Åbo: Institute for Human Rights, Åbo Akademi University, 1994.

Dupuy, P.M., 'International Liability for Transfrontier Pollution' in M. Bothe ed., *Trends in Environmental Policy and Law.* Berlin: Erich Schmidt Verlag, 1980, pp. 363-389.

Dupuy, P.M., 'Reviewing the Difficulties of Codification: On Ago's Classification of Obligations of Means and Obligations of Result in Relation to State Responsibility', 10(2) *European Journal of International Law*, 1999, pp. 371-385.

Dupuy, R-J, 'La notion de patrimoine commun de l'humanité appliquée aux fonds marins', *Droit et libertés à la fin du xx:e siècle. Influences des données economiques et technologiques. Etudes offertes à Claude-Albert Colliard*, Paris: Editions A. Pedone, 1984, pp. 197-205.

Ebbesson, J., *Internationell miljörätt*, Uppsala: Iustus Förlag, 1993.

Ebbesson, J., 'The Notion of Public Participation in International Environmental Law', 8 *Yearbook of International Environmental Law*, 1997, pp. 51-

Ebbesson, J., 'Information, Participation and Access to Justice: the Model of the Aarhus Convention', Background Paper Nr. 5, Joint UNEP-OHCHR Expert Seminar on Human Rights and the Environment, Geneva 14-16 January 2002, http://.unhchr.ch/environment/bp5.html.

Edwards, D., 'Review of the Status of Implementation and Development of Regional Arrangements on Co-operation in Combating Marine Pollution', in J.E. Carroll, ed., *International Environmental Diplomacy. The Management and Resolution of Transfrontier Environmental Problems*. Cambridge: Cambridge University Press, 1988, pp. 229-272.

The Effectiveness of Multilateral Environmental Agreements - A Report from a Nordic Project, Copenhagen: Nordic Council of Ministers, *TemaNord* 1996:513.

Eguh, E.C., 'The Bamako Convention and the First Meeting of the Parties: A Glance at Implementation Strategies', 7(3) *Review of European Community and International Environmental Law*, 1998, pp. 256-263.

Ehlers, P., 'The Helsinki Convention 1992 Improving the Baltic Sea Environment', 8(2) *The International Journal of Marine and Coastal Law*, 1993, pp. 191-214.

Elefteriadis, P.Z., 'The Future of Environmental Rights in the European Union', in Alston, P., ed. *The European Union and Human Rights*, Oxford: Oxford University Press, 1999, pp. 529-549.

Elliott, L.M., *International Environmental Politics: Protecting the Antarctic*, New York: St. Martin's Press, 1994.

Ellis, D., *Environments at Risk. Case Histories of Impact Assessment*, Berlin: Springer Verlag, 1989.

Epstein, M. & R. Gupta, *Controlling the Greenhouse Effect: Five Global Regimes Compared*, Washington D.C., The Brookings Institution, 1990.

Fabra, A., 'The Intersection of Human Rights and Environmental Issues: A Review of Institutional Developments at the International Level', Background Paper Nr. 3, Joint UNEP-OHCHR Expert Seminar on Human Rights and the Environment, Geneva 14-16 January 2002, http://.unhchr.ch/environment/bp3.html.

Fathalla, A., 'The Basel Convention and Illegal Traffic in Hazardous Wastes', 51 *International Criminal Police Review*, 1996, pp. 33-39.

Fauchald, O.K., *Retten til miljö som internasjonal menneskerettighet*. Oslo: Institutt for offentlig retts skriftserie nr. 3/1991.

Ferdinand, P., ed., *The Internet, Democracy and Democratization*, London: Frank Cass, 2000.

Ferreira, V., 'Implementing the Framework Convention on Climate Change, in J.B. Poole & R. Guthrie (eds.), *Verification Report 1992. Yearbook on Arms Control and Environmental Agreements*, London: VERTIC, 1992, pp. 275-282.

Fidler, D.P., 'The Internet and the Sovereign State: The Role of Cyberspace on National and Global Governance', 5(2) *Global Legal Studies Journal*, 1998, pp. 415-422.

Fischer, D.D., 'International Reporting Procedures', in H. Hannum ed., *Guide to International Human Rights Practice*. London: MacMillan Press, 1984, pp. 165-185.

Fischer, W., *The Verification of International Conventions on Protection of the Environment and Common Resources*, Jülich: Berichte des Forschungszentrums Jülich, 2495, Programmgruppe Technologiefolgenforschung, 1991.

Fischer, W., 'Update: The Verification of a Greenhouse Gas Convention', in J.B. Poole & R. Guthrie (eds.), *Verification Report 1992. Yearbook on Arms Control and Environmental Agreements*, London: VERTIC, 1992, pp. 283-285.

Fisher, E., 'Review of the European Commission's Communication on the Precautionary Principle [COM 2000(1), 2.2 2000]', 12(3) *Journal of Environmental Law* 2000, pp. 403-405.

Fisher, R., *Improving Compliance with International Law*. Charlottesville: University Press of Virginia, 1981.

Fitzmaurice, G.G., 'The Foundations of the Authority of International Law and the Problem of Enforcement', 19 *Modern Law Review*, 1956.

Fitzmaurice, M., 'Environmental Protection and the International Court of Justice', in V. Lowe & M. Fitzmaurice (eds.), *Fifty Years of the International Court of Justice. Essays in Honour of Sir Robert Jennings*, Cambridge: Cambridge University Press, 1996, pp. 293-315.

Fitzmaurice, M., 'The Helsinki Conventions 1974 and 1992', 13(3) *The International Journal of Marine and Coastal Law*, 1998, pp. 379-393.

Fleischhauer, C-A., 'Inducing Compliance', in O. Schachter & C.J. Joyner (eds.), *United Nations Legal Order*, Volume 1, American Society of International Law/Cambridge: University Press: 1995, pp. 231-243.

Fluck, J. and A. Theuer, 'Umweltinformationsgesetz. Welche Privaten sind Informationspflichtig?' 3 *Gewerbarchiv*, 1995, pp. 96-102.

Fox, H. & M.A. Meyer, eds., *Effecting Compliance*, London: The British Institute of International and Comparative Law, 1993.

Fox, J.A. & L.D. Brown, eds., *The Struggle for Accountability. The World Bank, NGOs and Grassroots Movements*, Cambridge, Massachusetts: The MIT Press, 1998.

Fraenkel, A., 'The Convention on Long-Range Transboundary Air-Pollution: Meeting the Challenge of International Cooperation', 30(2) *Harvard International Law Journal*, 1989, pp. 447-476.

Francioni, F. & T. Scovazzi (eds.), *International Responsibility for Environmental Harm*. London: Graham & Trotman, 1991.

Francioni, F., 'Exporting Environmental Hazard through Multinational Enterprises: Can the State of Origin be Held Responsible?', in Francioni, F. and T. Scovazzi, eds., *International Responsibility for Environmental Harm*, London: Graham & Trotman, 1991.

Francioni, F., 'International Co-operation for the Protection of the Environment: The Procedural Dimension', in Francioni, F. and T. Scovazzi, eds., *International Responsibility for Environmental Harm*, London: Graham & Trotman, 1991, pp. 203-225.

Francioni, F., ed., *International Environmental Law for Antarctica*. Milan: Giuffre Editore, 1992.

Franck, T.M., 'Legitimacy in the International System', 82 *American Journal of International Law*, 1988, pp. 705-

Franck, T.M., *The Power of Legitimacy among Nations*, New York: Oxford University Press, 1990.

Franck, T.M., 'The Emerging Right to Democratic Governance', 86 *American Journal of International Law*, 1992, pp. 46-

Freestone, D., 'The Precautionary Principle', in Freestone, D. & R.R. Churchill eds., *International Law and Global Climate Change*, London: Graham & Trotman, 1991.

French, H., 'The Role of Non-State Actors', in J.D. Werksman (ed.), *Greening International Institutions*, London: Earthscan, 1996, pp. 252-258.

Frieden, L., 'Newsgathering by Satellites: A New Challenge and National Law at the Dawn of the Twenty-First Century', 25(1) *Stanford Journal of International Law*, 1988, pp. 103-193.

Fritz, J-S., 'Towards a Global Framework for Scientific Advice', 5 *Synergy*, June 2001, p. 3 (at www.unep.int)

Fuchs, K., 'The European Social Charter: Its Role in Present-Day Europe and Its Reform' in Drzewicki, K, C. Krause, & A. Rosas, eds., *Social Rights as Human Rights. A European Challenge*, Åbo: Institute for Human Rights, Åbo Akademi University, 1994, pp. 151-167.

Gaia, G., 'Incidente a Chernobyl ed obbligo di informazione', 69 *Rivista di diritto internazionale*, 1986, pp. 828-829.

Gallagher, A., 'Making Human Rights Treaty Obligations a Reality: Working with new Actors and Partners', in Alston, P. & J. Crawford eds., *The Future of UN Human Rights Treaty Monitoring*, Cambridge, Cambridge University Press, 2000, pp. 201-227.

Ganten, R.H., 'HNS and Oil Pollution Developments in the Field of Compensation for Damage to the Marine Environment', Elizabeth Haub Colloqium, 27(4) *Environmental Policy and Law* 1997, pp. 310-314.

Gavouneli, M., *Pollution from Offshore Installations*. London: Graham & Trotman, 1995.

Geddes, A., '1992 and the Environment. Sovereignty Well Lost?', Nov. 11 *New Law Journal*, 1998, pp. 826-828.

Gehring, T., 'International Environmental Regimes: Dynamic Sectoral Legal Systems', 1 *Yearbook of International Environmental Law*, 1990, p. 35-56.

Gehring, T., *Dynamic International Regimes. Institutions for International Environmental Governance*, Frankfurt am Main: Peter Lang GmbH, vol. 5, 1994.

Van de Gehuchte, D. and D. Cornelis, 'European Community' in D. Campbell, ed., *Environmental Hazards and Duties of Disclosure*. London: Graham and Trotman, 1994, pp. 27-54

Ghys, R., 'Influence of Disasters and Accidents on the Legislation Covering 'Transport of Dangerous Goods'', 26 *European Transport Law* 1991, pp. 3-25.

Giddens, A. & L. Sklair, 'The Globalization Debate' at the London School of Economics' *Fathom* site at www.fathom.com/lse

Giddens, A., 'Risk and Responsibility', 62 *Modern Law Review*, 1999, pp. 1-.

Glazewski, J., 'Environmental Provisions in a New South African Bill of Rights', 37(2) *Journal of African Law* 1993, pp. 177-184.

Goldblat, J., 'Explosive Remnants of War: Legal Aspects', in A. H. Westing. ed., *Explosive Remnants of War. Mitigating the Environmental Effects*. London: Taylor and Francis, 1983, pp. 77-83.

Goldie, L.F.E., 'Concepts of Strict and Absolute Liability and the Ranking of Liability in Terms of Relative Exposure to Risk', XVI *Netherlands Yearbook of International Law*, 1985, pp. 175-248.

Gomez del Prado, J., 'U.N. Conventions on Human Rights: the Practice of the Human Rights Committee and the Committee on the Elimination of Racial Discrimination in Dealing with Reporting Obligations of States Parties', 7 *Human Rights Quarterly*, 1985, pp. 492-513.

Gormley, P., *Human Rights and the Environment: The Need for International Cooperation*, 1976.

Gormley, P., 'The Legal Obligation of the International Community to Guarantee a Pure and Decent Environment: The Expansion of Human Rights Norms', 3 *Georgetown International Environmental Law Review*, 1990, pp. 85-

Gorny, D., 'The European Environment Agency and the Freedom of Environmental Information Directive: Potential Cornerstones of EC Environmental Law', XIV(2) *Boston College International and Comparative Law Review*, 1991, pp. 279-299.

Gosovic, B., *The Quest for World Environmental Co-operation: the Case of the UN Global Environment Monitoring System*, London: Routledge, 1992.

Gould, P., *Fire in the Rain. The Democratic Consequences of Chernobyl.* Cambridge: Polity Press, 1990.

Graefrath, B., 'Reporting and Complaint Systems in Universal Human Rights Treaties', in A. Rosas & J. Helgesen (eds.) *Human Rights in a Changing East/West Perspective.* London: Pinter Publishers, 1990, pp. 290-333.

Granet, M-B, 'Principe de precaution et risques d'origine nucléaire: Quelle protection pour l'environnement?', 3 *Journal de Droit International* 2001, pp. 755-803.

Green, M. D., 'The Private Law Implications of Regulatory Risk Communication Reform in the United States' in International Environmental Law' in M.S. Baram & D.G. Partan, eds., *Corporate Disclosure of Environmental Risks. U.S. and European Law.* Salem: Butterworth Legal Publishers, 1990, pp. 243-273.

Greene, O., 'Ozone Depletion: Implementing and Strengthening the Montreal Protocol', in J.B. Poole & R. Guthrie (eds.), *Verification Report 1992. Yearbook on Arms Control and Environmental Agreements*, London: VERTIC, 1992, pp. 265-274.

Grossman, C., 'Supervision within the International Atomic Energy Agency',in P. van Dijk, ed., *Supervisory Mechanisms in International Economic Organizations. In the Perspective of a Restructuring of the International Economic Order.* The Hague: Kluwer Group, 1984, pp. 489-514.

Groth, E., 'Towards a More Precautionary and More Scientific Approach to Risk Assessment. A Consumer Perspective on Food Safety', Paper presented at the World Congress on Medicine and Health, Hannover, 12.8 2000, accessed through http://www.biotech-info.net/precautionary.html

Grout, D.Z., 'The Benefits of Basel', 16(1) *Environmental Forum*, 1999, pp. 19-25.

Grubb, M., 'Pledge and Review Processes: How Might Pledges Relate to the Convention?', in *Pledge and Review Processes: Possible Components of a Climate Change Convention*, RIAA, 1991.

Gudofsky, J.L., 'Transboundary Shipments of Hazardous Waste for Recycling and Recovery Operations', 34 *Stanford Journal of International Law* 1998, pp. 219-

Guobadia, A., 'The Nigerian Federal Environment Protection Agency Decree No. 59 of 1988: An Appraisal', 5 *African Journal of International and Comparative Law* 1993, pp. 1-10.

Gurlit, E., 'Europa auf dem Weg sur gläsernen Verwaltung? Zum Vorschlag der EG-Kommission für eine Richtlinie über den freien Zugang zu Informationen über die Umwelt', 22(7) *Zeitschrift für Rechtspolitik*, 1989, pp. 253-257.

Gündling, L., 'Prior Notification and Consultation', in G. Handl and R. Lutz eds., *Transferring Hazardous Technologies and Substances. The International Legal Challenge*, London: Graham & Trotman, 1989, pp. 63-82.

Gündling, L., 'The Status in International Law of the Principle of Precautionary Action', in. D. Freestone & T. Ijistra, eds., *The North Sea: Perspectives on Regional Environmental Co-operation*, Special Issue of the *International Journal of Coastal and Estuarine Law*, 1990, pp. 23-30.

Gündling, L., 'Our Responsibility to Future Generations', 84 *American Journal of International Law*, 1990a, pp. 207-212.

Gündling, L., 'Protection of the Environment by International Law: Air Pollution', in W. Lang, H. Neuhold & K. Zemanek, eds., *Environmental Protection and International Law*, London: Graham & Trotman, 1991, pp. 91-114.

Haas, P.M., 'Do Regimes Matter? Epistemic Communities and Mediterranean Pollution Control', 43 *International Organization*, 1989, pp. 377-

Haas, P.M., *Saving the Mediterranean. The Politics of International Environmental Cooperation*, New York: Columbia University Press, 1990.

Haas, P.M., 'Obtaining International Environmental Protection through Epistemic Consensus', 19(3) *Millennium*, 1990, pp. 347-363.

Haas, P.M., *From Theory to Practice: Ecological Ideas and Development Policy*, The Center for International Affairs, Harvard University, Working Paper Series, No. 92-2.

Haas, P.M., 'Introduction: Epistemic Communities and International Policy Coordination', 46(1) *International Organization*, 1992, pp. 1-35.

Haas, P.M., 'Banning Chlorofluorocarbons:Epistemic Community Efforts to Protect Stratospheric Ozone', 46(1) *International Organization*, 1992, pp. 187-224.

Haas, P.M, R.O. Keohane & M.A. Levy (eds.), *Institutions for the Earth: Sources of Effective International Environmental Protection*, Global Environmental Accords Series. Cambridge, MA: MIT Press, 1993.

Haas, P.M., 'Regime Patterns for Environmental Management', in P.M. Haas, H. Hveem (ed.), R.O. Keohane, A. Underdal, *Complex Cooperation. Institutions and Processes in International Resource Management*, Oslo: Scandinavian University Press, 1994, pp. 35-63.

Haas, P.M., 'Choosing to Comply: Theorizing from International Relations and Comparative Politics', in Shelton, D., ed., *Commitment and Compliance: The Role of Non-*

Binding Norms in the International Legal System. Oxford: Oxford University Press, 2000, pp. 43-64.

Hahn, R. & K.R. Richards, 'The Internationalization of Environmental Regulation' 30(2) *Harvard International Law Journal* 1989, pp. 421-446.

Hakapää, K., *Marine Pollution in International Law. Material Obligations and Jurisdiction*, Helsinki: Suomalainen tiedeakatemia, 1981.

Hamm, B.I., 'A Human Rights Approach to Development', 23 *Human Rights Quarterly* 2001, pp. 1005-1031.

Handl, G., 'The Principle of 'Equitable Use' as Applied to Internationally Shared Natural Resources Natural Resources: Its Role in Resolving Potential International Disputes over Transfrontier Pollution', XIV(1) *Revue belge de droit international* 1978-79, pp. 40-64.

Handl, G., 'State Liability for Accidental Transnational Environmental Damage by Private Persons', 74 *American Journal of International Law*, 1980, pp. 525-565.

Handl, G., 'Environmental Protection and Development in Third World Countries; Common Destiny; Common Responsibility', 20(3) *New York University Journal of International Law and Politics*, 1988, pp. 603-627.

Handl, G., 'Transboundary Nuclear Accidents: The Post-Chernobyl Multilateral Legislative Agenda', 15(2) *Ecology Law Quarterly*, 1988b, pp. 203-248.

Handl, G. and R.E. Lutz eds., *Transferring Hazardous Technologies and Substances. The International Legal Challenge*, London: Graham & Trotman, 1989.

Handl, G., 'Internationalization of Hazard Management in Recipient Countries: Accident Preparedness and Response', in G. Handl, R.E. Lutz eds., *Transferring Hazardous Technologies and Substances. The International Legal Challenge*. London: Graham & Trotman, 1989, pp. 106-128.

Handl, G. and R.E. Lutz, 'The Transboundary Trade in Hazardous Technologies and Substances from a Policy Perspective' in G. Handl and R. Lutz eds., *Transferring Hazardous Technologies and Substances. The International Legal Challenge*, London: Graham & Trotman, 1989.

Handl, G., 'The 1989 Basel Convention on the Transboundary Movement of Hazardous Waste: A Preliminary Assessment', in *Preserving the Global Environment, Proceedings of the 1989 Conference of the Canadian Council of International Law*, 1989.

Handl, G. and Lutz, R.E., 'An International Policy Perspective on the Trade of Hazardous Materials and Technologies', 30 *Harvard International Law Journal* 1989, pp. 351-374.

Handl, G., 'Environmental Security and Global Change: The Challenge to International Law', in W. Lang, H. Neuhold & K. Zemanek (eds.), *Environmental Protection and International Law*, 1991.

Handl, G., 'Human Rights and Protection of the Environment: A Mildly "Revisionist" View', in A. Cancado Trindade, ed., *Human Rights, Sustainable Development and the Environment*, San José: Instituto Interamericano de Derechos Humanos, 1992, pp. 117-142.

Handl, G., 'Towards a Global System of Compensation for Transboundary Nuclear Damage: Reflexions on the Interrelationship of Civil and International State Liability', in *Nuclear Accidents: Liabilities and Guarantees*, Proceedings of IAEA-NEA/OECD Symposium (Helsinki, 31.8-3.9 1992), 1993.

Handl, G., 'Controlling Implementation of and Compliance with International Environmental Commitments: the Rocky Road from Rio', 5(2) *Colorado Journal of International Environmental Law and Policy*, 1994, pp. 305-331.

Handl, G., 'Comments on Draft Articles of a Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Wastes and their Disposal', UNEP/CHW.1/WG.1/5/L.1/Add. 1.

Handl, G., *Multilateral Development Banking. Environmental Principles and Concepts Reflecting General International Law and Public Policy.* The Hague: Kluwer Law International, 2001.

Hannikainen, L., *Peremptory Norms (Jus Cogens) in International Law: Historical Development, Criteria, Present Status.* Helsinki: Finnish Lawyers' Publishing Company, 1988.

Hannum, H. ed., *Guide to International Human Rights Practice.* London: MacMillan Press, 1984, pp. 59-163.

Hanski, R., A. Rosas & K. Stendahl, *Verification of Arms Control Agreements. With Special Reference to On-Site Inspections*, Turku, ARNEK, 1991.

Harris, D., 'Lessons from the Reporting System of the European Social Charter', in Alston, P. & J. Crawford eds., *The Future of UN Human Rights Treaty Monitoring*, Cambridge, Cambridge University Press, 2000, pp.347-360.

Hatchard, J., 'Reporting under International Human Rights Instruments by African Countries', 38(1) *Journal of African Law* 1994, pp. 61-63.

He, Quizhe, 'Legal Aspects of Monitoring and Protecting Earth Environment by Space Technology', 20(2) *Journal of Space Law*, 1992, pp. 111-116.

Hegeland, H. and I. Mattson, 'The Swedish Riksdag and the EU: Influences and Openness', in M. Wiberg, ed., *Trying to Make Democracy Work. The Nordic Parliaments and the European Union*, The Bank of Sweden Tercentenary Foundation, 1997, pp. 70-107.

Henkin, L., *How Nations Behave*, 2nd ed., 1979.

Henkin, L., 'International Law: Politics, Values and Functions', 216(IV) *Académie de droit international: Recueil des Cours*, 1989, pp. 9-416.

Herczegh, G., *General Principles of Law and the International Legal Order*. Budapest: Akadémiai Kiadó, 1969.

Hey, E., 'The Precautionary Concept in Environmental Policy and Law: Institutionalizing Caution' 4(20) *Georgetown International Environmental Law Review*, 1992, pp. 303-318.

Higgins, R., *Problems and Processes: International Law and How We Use It*, Oxford: Clarendon Press, 1994.

Higgins, R., 'Natural Resources in the Case Law of the International Court' in Boyle, A. & D. Freestone, eds., *International Law and Sustainable Development – Past Achievements and Future Challenges*, Oxford: Oxford University Press, 1999, pp. 87-111.

Hillgenberg, H., 'A Fresh Look at Soft Law', 10(3) *European Journal of International Law* 1999, pp. 499-515.

't Hoen, E., 'Transparency and Accountability in Drug Regulation: Fighting for the Right to Know', 1 *Development Dialogue*, 1998, pp. 61-72.

Hughes, D., 'Freedom of Access to Information on the Environment', 3(4) *LMELR*, 1992, pp. 74-80.

Hurrel, A. & B. Kingsbury, eds., *The International Politics of the Environment. Actors, Interests, and Institutions*, 1992.

Ikhariale, M., 'The Koko Incident, the Environment and the Law', in F. Schyllan, ed., *The Law and the Environment in Nigeria*. Ibadan: Vantage Publishers, 1989, pp. 73-87.

Iluyomade, B.O., 'The Scope and Content of a Complaint of Abuse of Rights in International Law', 16 *Harvard International Law Journal*, 1975, pp. 47-92.

Innes de Neufville, J., 'Human Rights Reporting as a Policy Tool: an Examination of the State Department Country Reports', 8 *Human Rights Quarterly*, 1986, pp. 681-699.

The International Aspects of Natural and Industrial Catastrophes, The Centre for Studies and Research in International Law and International Relations, 1995, The Hague Academy of International Law, Dordrecht: Martinus Nijhoff Publishers, 1996.

International Environment: International Agreements Are Not Well Monitored, United States General Accounting Office Report to Congressional Requesters, January 1992, GAO/RCED-92-43.

International Environment: Strengthening the Implementation of Environmental Agreements, United States General Accounting Office Report to Congressional Requesters, August 1992, GAO/RCED-92-188.

Ivanov, S.A., 'The International Labour Organization: Control over Application of the Conventions and Recommendations on Labour', in W.E. Butler, ed., *Control over Compliance with International Law*, Dordrecht: Martinus Nijhoff, 1991, pp. 153-163.

Jacobson, H. & E. Brown Weiss, 'Strengthening Compliance with International Environmental Agreements', International Political Science Association Annual Meeting, Berlin, August 1994.

Jacobson, H. & E. Brown Weiss, 'Strengthening Compliance with International Environmental Accords', 1 *Global Governance*, 1995, pp. 119-148.

Jacobson, H. & E. Brown Weiss, eds., *Engaging Countries: Strengthening Compliance with International Environmental Accords*, 1998.

Jacqmotte, B., 'Definition and Assessment of the Concept of Harm in a Regime of Transboundary Harm Prevention', 3(2) *Austrian Review of International and European Law* 1998, pp. 233-265.

Jenks, D.T., 'The Convention on Biological Diversity - An Efficient Framework for the Preservation of Life on Earth?', 15 *Northwestern Journal of International Law and Business*, 1995, pp. 636-667.

Jessurun d'Oliveira, H.U., 'The Sandoz Blaze: The Damage and the Public and Private Liabilities' in F. Francioni & T. Scovazzi, eds., *International Responsibility for Environmental Harm*. London: Graham & Trotman, 1991 pp. 429-445.

Joerges, C. & D.M. Trubek, eds., *Critical Legal Thought: An American-German Debate*, Baden-Baden, 1989.

Joerges, C. & J. Neyer, 'From Intergovernmental Bargaining to Deliberative Political Processes: The Constitutionalization of Comitology', 3(3) *European Law Journal*, 1997, pp. 273-299.

Joerges, C. & E. Vos, eds., *EU Committees: Social Regulation, Law and Politics*, Oxford/Portland: Hart Publishing, 1999.

John, E., 'Access to Environmental Information: Limitations of the UK Radioactive Substances Register', 7(2) *Journal of Environmental Law*, 1995, pp. 11-30.

Kane, M.J., 'Promoting Political Rights to Protect the Environment', 18 *Yale Journal of International Law* 1993, pp. 389-411.

Katz, D., 'The Mismatch Between the Biosafety Protocol and the Precautionary Principle', 13 *Georgetown International Environmental Law Review*, 2001, pp. 949- 982.

Kelsen, H., *Principles of International Law*, R.W. Tucker ed. New York: Holt, Rinehart and Winston, Inc., 1967.

Kennedy, D., 'The Nuclear Weapons Case', in Boisson de Chazournes, L. & P. Sands, eds., *International Law, the International Court of Justice and Nuclear Weapons*, Cambridge University Press, 1999, pp.462-472.

Kennedy, D., 'The Forgotten Politics of International Governance', 2 *European Human Rights Law Review*, 2001, pp. 117-125.

Kennedy, D., 'The International Human Rights Movement: Part of the Problem?', 3 *European Human Rights Law Review*, 2001.

Kennedy, D., 'The Politics of the Invisible College: International Governance and the Politics of Expertise', 5 *European Human Rights Law Review*, 2001.

Kent, A., 'States Monitoring States: The United States, Australia, and China's Human Rights, 1990-2001', 23 *Human Rights Quarterly* 2001, pp. 583-624.

Keohane, R.O., 'Compliance with International Commitments: Politics Within a Framework of Law', in 'International Law and International Relations Theory: Building Bridges', 86 *Proceedings of the American Society of International Law*, 1992, pp. 176-180.

Keohane, R.O., P.M. Haas & M.A. Levy, 'The Effectiveness of International Environmental Institutions', in P.M. Haas, R.O. Keohane & M.A. Levy eds., *Institutions for the Earth: Sources of Effective International Environmental Protection*, Global Environmental Accords Series. Cambridge, MA: MIT Press, 1993, pp. 3-24.

Keohane, R.O., 'Against Hierarchy: An Institutional Approach to International Environmental Protection', in P.M. Haas, H. Hveem (ed.), R.O. Keohane, A. Underdal, *Complex Cooperation. Institutions and Processes in International Resource Management*, Oslo: Scandinavian University Press, 1994, pp. 13-34.

Keskinen, A., *Towards User Empowerment. On Development of Utilization of Information and Communications Technology in Decision Making of Administrations.* University of Tampere: Studia Politica Tamperensis, No. 6., 1999.

Kimball, L.A, 'Environmental Law and Policy in Antarctica', in Sands, P., ed., *Greening International Law*, London: Earthscan Publications, 1993, pp. 122-

Kiss, A.C., *Survey of Current Developments in International Environmental Law*, IUCN Environmental Law and Policy Paper No. 10, 1976.

Kiss, A-C., 'Mechanisms of Supervision of International Environmental Rules', in Kalshoven, Kuyper, J. Lammers (eds.), *Essays on the Development of the International Legal Order*, Alphen aan den Rijn, 1980, pp. 99-112.

Kiss, A., *Selected Multilateral Treaties in the Field of the Environment*, UNEP Reference Series No. 3, 1983.

Kiss, A-C, 'L'accident de Tchernobyl et ses conséquences au point de vue du droit international', XXXII *Annuaire francais de droit international*, 1986, pp. 139-152.

Kiss, A-C, '"Tchernobâle" ou la pollution accidentelle du Rhin par les produits chimiques', 33 *Annuaire francais de droit international*, 1987, pp. 719-727.

Kiss, A-C, *Droit international de l'environnement.* Paris: Editions A. Pedone, 1989.

Kiss, A-C, 'Will the Necessity to Protect the Global Environment Transform the Law of International Relations?', *Josephine Onoh Memorial Lecture*, 28 January 1992, University of Hull Press, 1992.

Kiss, A. & D. Shelton, *Manual of European Environmental Law*, CRE Copernicus and Cambridge: Cambridge University Press, 1993; 2nd ed., Cambridge: Grotius, 1997.

Kiss, A. & D. Shelton, *International Environmental Law*, 2000.

Kiss, A. & J-P Beurier, *Droit international de l'environnement*, Etudes internationales, no. 3, Pedone, 2000.

Kitt, J., 'Waste Exports to the Developing World: A Global Response', 7 *Georgetown International Environmental Law Review* 1995, pp. 485-

Klein, N., *No Logo*, London: Harper-Collins, 2000.

Klemm, C. de, 'La conservation de la diversité biologique: obligation des etats et devoir des citoyens', *Revue Juridique de l'Environnement*, 1989, pp. 397-408.

Knabe, B., 'Der Reaktorunfall im Kernkraftwerk Tschernobyl. I, Die Katastrophe - Bewältigung und Auswirkungen', 37 *Osteuropa*, 1987a, pp. 15-27.

Knabe, B., 'Der Reaktorunfall im Kernkraftwerk Tschernobyl. II, Zur Informationspolitik der Sowjetführung und zu möglichen Folgen der Katastrophe', 37 *Osteuropa*, 1987b, pp. 176-194.

Knemeyer, F-L, 'Die Wahrung von Betriebs- und Geschäftsheimnissen bei behördlichen Umweltinformationen', 14 *Der Betrieb* 9.4 1993, pp. 721-726.

Knox, J.H., 'A New Approach to Compliance with International Environmental Law: The Submissions Procedure of the NAFTA Environmental Commission', 28(1) *Ecology Law Quarterly* 2001, pp. 1-122.

Knox, J.H., 'The Myth and Reality of Transboundary Environmental Impact Assessment', 96(2) *American Journal of International Law*, 2002, pp. 291-319.

Koh, H.H., Book review: 'Chayes, A. & A.H. Chayes, The New Sovereignty. Compliance with International Regulatory Agreements', 91(2) *The American Journal of International Law* 1997, pp. 389-391.

Korhonen, O., 'New International Law: Silence, Defence or Deliverance?', 7 *European Journal of International Law* 1996, pp. 1-28.

Koskenniemi, M., 'International Liability for Transfrontier Pollution Damage', 2(4) *International Environmental Affairs* 1990, pp. 309-331.

Koskenniemi, M., 'Breach of Treaty or Non-Compliance? Reflections on the Enforcement of the Montreal Protocol', 3 *Yearbook of International Environmental Law* 1992, pp. 123-162.

Koskenniemi, M., 'New Institutions and Procedures for Implementation Control and Reaction', in J.D. Werksman (ed.), *Greening International Institutions*, London: Earthscan, 1996, pp. 236-248.

Koskenniemi, M., 'Intolerant Democracies: A Reaction', 37 *Harvard International Law Journal* 1996, pp. 231-

Krasner, S.D., ed., *International* Regimes, 1983.

Kromarek, P., ed., *Environnement et droits de l'homme*, Paris: UNESCO, 1987.

Krueger, J., *International Trade and the Basel Convention*, London: Earthscan Publications Ltd., 1999.

Krämer, L., *E.C. Environmental Law*, 4th ed., London: Sweet & Maxwell, 2000.

Kummer, K. 'The International Regulation of Transboundary Traffic in Hazardous Wastes: the 1989 Basel Convention', 41 *International and Comparative Law Quarterly* 1992, pp. 530-562.

Kummer, K., 'Providing Incentives to Comply with Multilateral Environmental Agreements: An Alternative to Sanctions?', 3(9) *European Environmental Law Review*, 1994, pp. 256-263.

Kummer, K., *International Management of Hazardous Wastes. The Basel Convention and Related Legal Rules*, Oxford: Clarendon Press, 1995.

Kunzlik, P., 'Access to the Commission's Documents in Environmental Cases: Confidentiality and Public Confidence', 9 *Journal of Environmental Law*, 1997, pp. 321-344.

Kuokkanen, T., *International Law and the Environment: Variations on a Theme*, University of Helsinki, 2000.

Kwiatkowska, B., 'Marine-based Pollution in the Exclusive Economic Zone: Reconciling Rights, Freedoms and Responsibilities', 1 *Hague Yearbook of International Law*, 1988, pp. 111-140.

Ladeur, K-H, 'From Universalistic Law to the Law of Uncertainty: On the Decay of the Legal Order's "Totalizing Teleology" as Treated in the Methodological Discussion From the Left', in Joerges, C. & D.M. Trubek, eds., *Critical Legal Thought: An American-German Debate*, Baden-Baden, 1989, pp. 567-590.

Ladeur, K-H, 'Coping with Uncertainty: Ecological Risks and the Proceduralization of Environmental Law', in Teubner, G., L. Farmer & D. Murphy (eds.), *Environmental Law and Ecological Responsibility. The Concept and Practice of Ecological Self-Organization*, Chichester: John Wiley & Sons, 1994, pp. 299-336.

Ladeur, K-H & R. Prella, 'Environmental Assessment and Judicial Approaches to Procedural Errors – A European and Comparative Law Analysis', 13(2) *Journal of Environmental Law* 2001, pp. 185-198.

Lador, Y., 'Human Rights and Environment: the Concept of "Ecological Rights"', in Conference: *Human Rights Approaches to Environmental Protection in the Commonwealth and Beyond*, London, Commonwealth Institute, 27-28 May 1993.

de La Fayette, L., 'Nuclear Liability Revisited', 1(4) *Review of European Community and International Environmental Law*, 1992, pp. 443-452.

de La Fayette, L., 'International Environmental Law and the Problem of Nuclear Safety', 5(1) *Journal of Environmental Law* 1993, pp. 31-69.

Lammers, J.G., *Pollution of International Watercourses. A Search for Substantive Rules and Principles of Law*, The Hague: Martinus Nijhoff Publishers, 1984.

Lang, W., 'Frühwarnung bei Nuklearunfällen', 39 *Österreichische Zeitschrift für öffentliches Recht und Völkerrecht*, 1988, pp. 9-18.

Lang, W., 'The International Waste Regime', in W. Lang et al. eds., *Environmental Protection and International Law*, London: Graham & Trotman, 1991, pp. 147-166.

Lang, W., ed., *Sustainable Development and International Law*, London: Graham & Trotman, 1995.

Lang, W., 'Trade Restrictions as a Means of Enforcing Compliance with International Environmental Law', in R. Wolfrum, ed., *Enforcing Environmental Standards. Economic Mechanisms as Viable Means?*, Berlin: Springer Verlag, 1996, pp. 265-283.

Lansdown, G., 'The Reporting Process under the Convention on the Rights of the Child', in Alston, P. & J. Crawford eds., *The Future of UN Human Rights Treaty Monitoring*, Cambridge, Cambridge University Press, 2000, pp.113-128.

Lappe, M., 'Grenzüberschreitender Umweltshutz: Das Modell der Nordischen Umweltschutzkonvention im Vergleich mit dem Deutschen Umweltrecht', in 15(5) *Natur & Recht* 1993, pp. 213-217.

Larsson, T., 'How Open Can a Government Be? The Swedish Experience', in Deckmyn, V. & I. Thomson, eds., *Openness and Transparency in the European Union*, Maastricht: European Institute of Public Administration, 1998, pp. 39-51.

La Viña, A.G.M., 'The Right to a Sound Environment in the Philippines: The Significance of the *Minors Oposa* Case', 3(4) *Review of European Community and International Environmental Law*, 1994, pp. 246-252.

Lavranos, N., 'Multilateral Environmental Agreements: Who Makes the Binding Decisions?', 11(2) *European Environmental Law Review* 2002, pp. 44-50.

Leary, V.A., 'Lessons Learned from the Experience of the International Labour Organisation', in P. Alston, ed., *The United Nations and Human Rights. A Critical Appraisal*. Oxford: Clarendon Press, 1992, pp. 581-619.

Leben, C., 'The Changing Structure of International Law Revisited By Way of Introduction', 8(3) *European Journal of International Law*, 1997, pp. 399-408.

Leckie, S., 'The Committee on Economic, Social and Cultural Rights: Catalyst for Change in a System Needing Reform', in Alston, P. & J. Crawford eds., *The Future of UN Human Rights Treaty Monitoring*, Cambridge, Cambridge University Press, 2000, pp. 129-144.

Lee, M., 'Civil Liability of the Nuclear Industry', 12(3) *Journal of Environmental Law*, 2000, pp. 317-332.

Lefeber, R., *Transboundary Environmental Interference and the Origin of State Liability*, The Hague: Kluwer, 1996.

Lerner, N., *The U.N. Convention on the Elimination of All Forms of Racial Discrimination*, Alphen aan den Rijn: Sijthoff & Noordhoff, 1980.

Lessig, L., *Code and Other Laws of Cyberspace*, New York: Basic Books, 1999.
Levis, L., 'The European Community's Internal Regime on Trade in Hazardous Wastes. Lessons from the U.S. Regime', 7(3) *Review of European Community and International Environmental Law*, 1998, pp. 283-290.

Levy, M.A., R.O. Keohane & P.M. Haas, 'Improving the Effectiveness of International Environmental Institutions', in P.M. Haas, R.O. Keohane & M.A. Levy eds., *Institutions for the Earth: Sources of Effective International Environmental Protection*, Global Environmental Accords Series. Cambridge, MA: MIT Press, 1993, pp. 397-426.

Levy, M.A., 'European Acid Rain: The Power of Tote-Board Diplomacy', in P.M. Haas, R.O. Keohane & M.A. Levy eds., *Institutions for the Earth: Sources of Effective International Environmental Protection*, Global Environmental Accords Series. Cambridge, MA: MIT Press, 1993, pp. 75-132.

Levy, R.E., 'International Law and the Chernboyl Accident: Reflections on an Important but Imperfect System', 20 *Land Use and Environment Law Review*, 1989, pp. 617-667.

Liberatore, A., *The Management of Uncertainty. Learning from Chernobyl*, Gordon and Breach Publishers, 1999.

Lipman, Z., 'Transboundary Movement of Hazardous Waste: Environmental Justice Issues for Developing Countries', in *Conference Proceedings: Environmental Justice and the Legal Process*, Cape Town: University of Cape Town/Macquarie University, 1998, pp. 269-289.

List, M. & V. Rittberger, 'Regime Theory and International Environmental Management', in Hurrel, A. & B. Kingsbury, eds., *The International Politics of the Environment. Actors, Interests, and Institutions*, 1992, pp.85-109.

Litfin, K.T., 'A Watched Planet Never Boils? An Inquiry into Global Environmental Monitoring', paper delivered at the Annual Meeting of the International Studies Association, Chicago, 22-25.2 1995.

Livernash, R., 'The Growing Influence of NGOs in the Developing World', 34(5) *Environment*, 1992, pp. 12-43.

Lodge, J., 'Transparency and Democratic Legitimacy', 32(3) *Journal of Common Market Studies* 1994, pp. 343-368.

Lofstedt, R. & L. Frewer, eds., *The Earthscan Reader in Risk and Modern Society*, London: Earthscan Publications, 1998.

Logie, J.G., 'Affirmative Action in the Law of Tort: The Case of the Duty to Warn', 48(1) *The Cambridge Law Journal*, 1989, pp. 115-134.

Lord, C. & D. Beetham, 'Legitimizing the EU: Is there a 'Post-parliamentary Basis' for its Legitimation?', 39(3) *Journal of Common Market Studies* 2001, pp. 443-62.

Loske, R. & S. Oberthür, 'Joint Implementation under the Climate Change Convention', 6(1) *International Environmental Affairs*, 1994, pp. 45-58.

Lowe, V., 'Sustainable Development and Unsustainable Arguments', in Boyle, A. & D. Freestone, eds., *International Law and Sustainable Development – Past Achievements and Future Challenges*, Oxford: Oxford University Press, 1999, pp. 19-37.

Luhmann, N., *Risk: A Sociological Theory*. Berlin: Walter de Gruyter, 1993.

Lutz, R.E., 'The Export of Danger; a View From the Developed World', 20(3) *Journal of International Law and Politics* 1988, pp. 629-677.

Lyster, S., *International Wildlife Law*, Cambridge: Grotius Publications Limited, 1985.

MacKenzie, D. and Mpinga, J.: 'Africa Wages War on the Dumpers of Poisonous Waste', *New Scientist*, 23.6 1988, pp. 30-31.

Maddock, 'The Case Against Hysteria', *Nature*, 1974.

Mahalu, C.R., 'The O.A.U. Council of Ministers' Resolution on Dumping of Nuclear and Industrial Waste in Africa and the Basel Convention of 1989', 2(1) *African Journal of International and Comparative Law* (1990), pp. 61-71.

Makuch, Z., 'The World Trade Organization and the General Agreement on Tariffs and Trade', in Werksman, J.D., ed., *Greening International Institutions*, London: Earthscan, 1996, pp. 94-115.

Maluwa, T., 'International Law-Making in the Organisation of African Unity: An Overview', 12 *Revue Africaine de Droit International et Comparé*, 2000, pp. 201-225.

Marks, S., 'Democratic Celebration, Democratic Melancholy', IX *The Finnish Yearbook of International* Law, 1998, pp. 73-79.

Marples, D.R., *The Social Impact of the Chernobyl Disaster*, London, MacMillan Press, 1988.

Marples, D.R., 'The Chernobyl Disaster: Its Effects on Belarus and Ukraine', in Mitchell, J.K., ed., *The Long Road to Recovery: Community Responses to Industrial Disasters*, 1996, pp. 183-230.

Marton-Lefèvre, J., 'The Role of the Scientific Community in the Preparation of and Follow-Up to UNCED', in B.I. Spector et al. (eds.), *Negotiating International Regimes: Lessons Learned from the United Nations Conference on Environment and Development*, London: Graham & Trotman, 1994, pp. 171-180.

Maxeiner, J.R., 'Freedom of Information and the EU Data Protection Directive', 48(1) *Federal Communications Law Journal* 1995; http://www.law.indiana.edu/fclj/pubs/v48/no1/maxeiner.html

Mayer, F.C., 'Review Essay: The Internet and Public International Law – Worlds Apart?', 12(3) *European Journal of International Law*, 2001, pp. 617-622.

Mayer, P.G., *Das Internet im Öffentlichen Recht. Unter Berücksichtigung europarechtlicher und völkerrechtlicher Vorgaben*, Berlin: Duncker & Humblot, 1999.

Mbaku, J.M., *Bureaucratic and Political Corruption in Africa: The Public Choice Perspectives*, Malabar: Krieger Publishing Company, 2000.

McBrayer, S., 'Chernobyl's Legal Fallout - The Convention on Early Notification of a Nuclear Accident', 17 *Georgia Journal of International and Comparative Law*, 1986, pp. 303-319.

McCaffrey, S., 'International Liability and International Watercourses: The Work of the International Law Commission Relating to International Pollution', in D.B. Magraw, ed. *International Law and Pollution*. Philadelphia: University of Philadelphia Press, 1991, pp. 90-119.

McCaffrey, S., 'The International Law Commission Adopts Draft Articles on International Watercourses', 89(2) *American Journal of International Law*, 1995, pp. 395-404.

McCaffrey, S. & M. Sinjela, 'The 1997 United Nations Convention on International Watercourses', 92 *American Journal of International Law* 1998, pp. 97-107.

McIntyre, O. & T. Mosedale, 'The Precautionary Principle as a Norm of Customary International Law', 9(2) *Journal of Environmental Law* 1997, pp. 221-241.

McIntyre, O., 'Case Law Analysis: Environmental Protection of International Rivers - the Case Concerning the Gabcikovo-Nagymaros Project (Hungary v. Slovakia) ICJ, 1997', 10(1) *Journal of Environmental Law*, 1998, pp. 79-91.

Meadows, D. *et als.*, *The Limits to Growth: a Report for the Club of Rome's Project on the Predicament of Mankind*, London: Pan Books, 1974.

Meadows, D., *Beyond the Limits: Global Collapse or a Sustainable Future*, London: Earthscan, 1992.

Medvedev, G., *The Truth About Chernobyl*, New York: Basic Books Inc. Publishers, 1991.

Medvedev, Z.A., *The Legacy of Chernobyl*, Oxford: Basil Blackwell, 1990.

Mensah, C., 'The United Nations Commission on Sustainable Development', in Werksman, J.D., ed., *Greening International Institutions*, London: Earthscan, 1996, pp. 21-37.

Meron, T., 'Norm Making and Supervision in International Human Rights: Reflections on Institutional Order', 76 *American Journal of International Law*, 1982, p. 754.

Mickwitz, P., *Implementation of Key Environmental Principles. Experiences from the Protection of the Baltic Sea*, Copenhagen: Nordic Council of Ministers, NORD 1998:2.

Miller, C., 'The European Convention on Human Rights: Another Weapon in the Environmentalist's Armoury', 11(1) *Journal of Environmental Law*, 1999, pp. 157-176.

Milner, H., 'International Theories of Cooperation among Nations. Strengths and Weaknesses', Review Article, 44 *World Politics*, 1992, pp. 466-96.

Mitchell, R.B., 'Compliance Theory: Synthesis', 2(4) *Review of European Community and International Environmental Law*, 1993, pp. 327-339.

Mitchell, R.B., *Intentional Oil Pollution at Sea: Environmental Policy and Treaty Compliance*, Cambridge, MA: MIT Press, 1994.

Monaco, R., 'Observations sur la hierarchie des sources du droit international' in R. Bernhardt, ed., *Völkerrecht als Rechtsordnung; internationale Gerichtsbarkeit; Menschenrecht: Festschrift für Hermann Mosler*. Berlin: Springer Verlag, 1982, pp. 599-616.

Moser, B., 'The IAEA Conventions on Early Notification of a Nuclear Accident and on Assistance in the Case of a Nuclear Accident or Radiological Emergency', 44 *Nuclear Law Bulletin*, 1989, pp. 10-23.

Müllerson, R.A., 'Monitoring Compliance with International Human Rights Standards', in W.E. Butler, ed., *Control over Compliance with International Law*, Dordrecht: Martinus Nijhoff, 1991, pp. 125-137.

Müllerson, R., *Human Rights Diplomacy*, London: Routledge, 1997.

Müllerson, R., 'Reflections on the Future of Civil and Political Rights', in Weston, B.H. & S.P. Marks, eds., *The Future of International Human Rights*, New York: Transnational Publishers, 1999, pp. 225-243.

Myers, N. & Myers, D., 'How the Global Community Can Respond to International Environmental Problems', 12(1) *Ambio*, 1983.

Myers, B. & P. Read, 'Emergency Planning and Pollution' in M. Newson *et al.*, eds., *Managing the Human Impact on the Natural Environment: Patterns and Processes*. London: Belhaven Press, 1992, pp. 196-210.

Nash, R.F., *The Rights of Nature. A History of Environmental Ethics*, Madison: The University of Wisconsin Press, 1989.

Noiville, C., 'Principe de précaution et Organisation mondiale du commerce. Le cas du commerce alimentaire', 2 *Journal du droit international* 2000, pp. 263-297.

Nollkaemper, A., 'The Precautionary Principle in International Environmental Law: What's New Under the Sun?', 22(3) *Marine Pollution Bulletin*, 1991.

Nordström, N., E. Pirjatanniemi, A. Rosas *et al*, *Johdatus kansainväliseen ympäristöoikeuteen*, Helsinki: Lakimiesliiton kustannus, 1994.

Nordström, N., *The State Duty to Inform on Transboundary Environmental Accidents*, Åbo: Åbo Akademi University, Project Publication No. 25, 1996.

Nordström, N., 'Managing Transboundary Environmental Accidents: The State Duty to Inform', in D.D. Caron & Ch. Leben, eds., *Les aspects internationaux des catastrophes naturelles et industrielles/The international aspects of natural and industrial catastrophes*, the Hague Academy of International Law, Centre for Studies and Research in International Law and International Relations, 1995 Session on Natural and Industrial Catastrophes, The Hague : Martinus Nijhoff, 2001, pp. 291-378.

Norris, P., 'The Worldwide Digital Divide: Information Poverty, the Internet and Development', Paper for the Political Studies Association 50th Annual Meeting, London, 10-13 April 2000.

Norris, P., *Digital Divide? Civic Engagement, Information Poverty and the Internet in Democracies*, Forthcoming: New York: Cambridge University Press, 2001.

Nowak, M., 'The Implementation Functions of the UN Committee against Torture', in *Progress in the Spirit of Human Rights: Festschrift für Felix Ermacora*. Kehl am Rhein: Engel Verlag, 1988.

Oberthür, S., 'Climate Change Convention: Preparations for the First Conference of the Parties', 24/6 *Environmental Policy and Law* 1994, pp. 299-303.

O'Connell, M.E., 'Enforcing the New International Law of the Environment', 35 *German Yearbook of International Law*, 1992, pp. 293-332.

Odier, F., 'La Convention sur la responsabilité et l'indemnisation pour les dommages lies au transport par mer de substances nocives et potentiellement dangereuses (Convention HNS)', in Tome 1 *Annuaire du droit de la mer* 1996, pp. 93-142.

Ogundere, J.D., 'The Development of International Environmental Law and Policy in Africa', 12 *Natural Resources Journal*, 1972, pp. 255-270.

Okonmah, P.D., 'Right to a Clean Environment: The Case for the People of Oil-Producing Communities in the Nigerian Delta', 41(1) *Journal of African Law* 1997, pp. 43-67.

O'Neill, K., 'Out of the Backyard: The Problems of Hazardous Waste Management at a Global Level', 7(2) *The Journal of Environment and Development*, 1998, pp. 138-163.

Oppenheim, L.F.L, *International Law. A Treatise*, vol I, 8th ed. (1974), ed. H. Lauterpacht, London: Longman, 1955.

Orava, S.J., 'Waging the Next War: the Carryover of Arms Control Verification Procedures to International Environmental Law", 5(1) *Georgetown International Environmental Law Review*, 1992, pp. 151-176.

O'Riordan, T. & J. Cameron, eds., *Interpreting the Precautionary Principle*, London, 1994.

Österdahl, I., *Freedom of Information in Question. Freedom of Information in International Law and the Calls for a New World Information and Communication Order (NWICO).* Uppsala: Iustus Förlag, 1992.

Ott, H., 'The New Montreal Protocol: A Small Step for the Protection of the Ozone Layer, a Big Step for International Law and Relations', 24 *Verfassung und Recht in Übersee*, 1991, pp. 188-208.

Our Common Future, The World Commission on Environment and Development, Report, 1987.

Pallemaerts, M., 'International Legal Aspects of Long-Range Transboundary Air Pollution', 1 *Hague Yearbook of International Law* 1988, pp. 189-224.

Pallemaerts, M., ed., *The Right to Environmental Information*, 1991.

Pallemaerts, M., 'International Environmental Law from Stockholm to Rio: Back to the Future', in P. Sands (ed.), *Greening International Law*. London: Earthscan Publications, 1993, pp. 1-19.

Palmer, G., 'New Ways to Make International Environmental Law', 86 *American Journal of International Law* 1992, pp. 259-283.

Pambou Tchivounda, G.: 'L'interdiction de deverser des dechets toxiques dans le tiers monde: le cas de l'Afrique', 34 *Annuaire Francais de Droit International*, 1988, pp. 709-725.

van Panhuys, V.H.F., 'In Search for an International Law of Emergency', *Netherlands Yearbook of International Law*, 1972, pp. 148-170.

Park, R.S., 'An Examination of International Environmental Racism through the Lens of Transboundary Movement of Hazardous Wastes', 5(2) *Global Legal Studies Journal* 1998, pp. 659-710.

Partan, D.G., 'The 'Duty to Inform' in International Environmental Law' in M.S. Baram, D.G. Partan eds., *Corporate Disclosure of Environmental Risks. U.S. and European Law*. Salem: Butterworth Legal Publishers, 1990, pp. 131-180.

Pawlak, S., 'The Legal Aspects of Verification', in J. Dahlitz & D. Dicke eds., *The International Law of Arms Control and Disarmament*, Proceedings of the Symposium, Geneva, 28 Feb.- 2 March 1991, New York: United Nations, 1991, pp. 127-144.

Pearson, Ch., 'Environmental Standards, Industrial Relocation, and Pollution Havens', in Charles S. Pearson ed., *Multinational Corporations, Environment, and the Third World: Business Matters*. Durham: Duke University Press, 1987, pp. 113-128.

Pease, W.S., 'Chemical Hazards and the Public's Right to Know. How Effective is California's Proposition 65?', 33(10) *Environment*, 1991, pp. 12-20.

Perritt, H.H., 'The Internet as a Threat to Sovereignty? Thoughts on the Internet's Role in Strengthening National and Global Governance', 5(2) *Global Legal Studies Journal*, 1998, pp. 423-442.

Perritt, H.H., 'The Internet is Changing International Law', 73 *Chicago-Kent Law Review*, 1998, pp. 997-.

Perrow, Ch., *Normal Accidents. Living with High-Risk Technologies*, New York: Basic Books Inc. Publishers, 1984.

Peter, C.M., *Human Rights in Africa. A Comparative Study of the African Human and People's Rights Charter and the New Tanzanian Bill of Rights*. New York: Greenwood Press, 1990.

Peterson, M.J., 'Whalers, Cetologists, Environmentalists, and the International Management of Whaling', 46(1) *International Organization*, 1992, pp. 147-186.

Phillips, Ch., 'Nordic Co-operation for the Protection of the Environment Against Air Pollution and the Possibility of Transboundary Litigation', in Flinterman, C. et al., eds. *Transboundary Air Pollution. International Legal Aspects of the Co-operation of States*. Dordrecht: Martinus Nijhoff Publishers, 1986, pp. 155-.

Pinto, M.C.W., 'Reflections on International Liability for Injurious Consequences Arising Out of Acts Not Prohibited by International Law', XVI *Netherlands Yearbook of International Law*, 1985, pp. 17-48.

Pisillo-Mazzeschi, R., *"Due Diligence" e responsabilità internazionale degli Stati*, Milano, 1989.

Pisillo-Mazzeschi, R., 'Forms of International Responsibility for Environmental Harm' in F. Francioni & T. Scovazzi, eds., F. Francioni, & T. Scovazzi, eds., *International Responsibility for Environmental Harm*. London: Graham & Trotman, 1991, pp. 15-35.

Pisillo-Mazzeschi, R., 'The Due Diligence Rule and the Nature of the International Responsibility of States', 35 *German Yearbook of International Law*, 1992, pp. 9-51.

Plant, G., 'Institutional and Legal Responses to Global Warming', in R. Churchill & D. Freestone, eds., *International Law and Global Climate Change*, 1991, pp. 165-181.

Plant, G., 'Pledge and Review: a Survey of Precedents', in *Pledge and Review Processes: Possible Components of a Climate Change Convention*, RIAA, 1991.

Plant, G., ed., *Environmental Protection and the Law of War: a "Fifth Geneva" Convention on the Protection of the Environment in Time of Armed Conflict*, London: Belhaven Press, 1992.

Pocar, F. & C. Bernard, 'National Reports: Their Submission to Expert Bodies and Follow-Up' in *Manual on Human Rights Reporting Under Six Major International Human Rights Instruments*, United Nations, New York, 1991, HR/PUB/91/1.

Politi, M., 'The Impact of the Chernobyl Accident on the States' Perception of International Responsibility for Nuclear Damage', in F. Francioni & T. Scovazzi, eds., *International Responsibility for Environmental Harm*. London: Graham & Trotman, 1990, pp. 473-498.

Ponce-Nava, D., 'Capacity-Building in Environmental Law and Sustainable Development', in W. Lang (ed.), *Sustainable Development and International Law*, London: Graham & Trotman, 1995, pp. 131-140.

Ponting, C., *A Green History of the World*, 1992.

Porras, I.M., 'The Rio Declaration: A New Basis for International Cooperation', in P. Sands (ed.), *Greening International Law*. London: Earthscan Publications, 1993, pp. 20-33.

Prieur, M., 'La Directive Seveso sur les risques d'accidents majeurs', 3 *Revue juridique de l'environnement*, 1989, pp. 261-268.

di Primio, J.C., G. Stein, H.F. Wagner, 'Verifying Compliance with an International Convention on Greenhouse Gases', 34(2) *Environment*, 1992, pp. 4-5, 45.

Princen, T. & M. Finger, *Environmental NGOs in World Politics. Linking the Local and the Global*, London: Routledge, 1994.

Proceedings of the Annual Conference of the Law of the Sea Institute, 23/1990, (Implementation of the Law of the Sea Convention through International Institutions) pp. 463-470 (Yankov), pp.474-492 (Okidi), pp. 493-503 (Briceno), pp. 505-506 (Biegman), pp. 690-696 (Birnie, Van Dyke, Boyle, Nollkaemper).

Prosser and Keeton on the Law of Torts, W.P. Keeton, ed. St. Paul: West Publishing Co., 1984 (1971), 5th ed.

Puckett, J., 'The Basel Ban: A Triumph Over Business as Usual', 5 *The Ecologist Asia* 1997, pp. 5-19.

Pulvenis, J-F., 'The Framework Convention on Climate Change', in L. Campiglio, *et al.* (eds.), *The Environment after Rio: International Law and Economics*, London: Graham & Trotman, 1994, pp. 71-110.

The Radiological Accident in Goiania, IAEA: Vienna, 1988, STI/PUB/815.

Ragazzi, M., *The Concept of International Obligations Erga Omnes*, Oxford: Clarendon Press, 1997.

Ramakrishna, K., 'The Emergence of Environmental Law in the Developing Countries: A Case Study of India', *Ecology Law Quarterly* 1985, pp. 907-

Ramcharan, B. G., *The International Law and Practice of Early-Warning and Preventive Diplomacy: The Emerging Global Watch.* Dordrecht: Martinus Nijhoff Publishers, 1991.

Ranjan, S., 'Legal Controls on the Transboundary Movements of Hazardous Wastes Into India – An Evaluation', 41(1) *Indian Journal of International Law* 2001, pp. 44-95.

Raustila, K., 'The "Participatory Revolution" in International Environmental Law', 21 *Harvard Environmental Law Review*, 1997, pp. 537-586.

Redclift, M., *Sustainable Development. Exploring the Contradictions*, London: Methuen, 1987.

Redgwell, C., 'Life, Universe and Everything: A Critique of Anthropocentric Rights', in Boyle, A. & M. Anderson, eds., *Human Rights Approaches to Environmental Protection*, Oxford: Clarendon Press, 1996, pp. 71–87.

Rehbinder, E., 'Vorsorgeprinzip in Umweltrecht und präventive Umweltpolitik', in *Preprints*, Internationales Institut für Umwelt und Gesellschaft, 87/7, 1987, pp. 1-18.

Rengifo, A., 'The International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, 1996' in 6(2) *Review of European Community and International Environmental Law* 1997, pp. 191-197.

Renn, O., 'Concepts of Risk: A Classification' in S. Krimsky & D. Golding eds., *Social Theories of Risk.* Westport: Praeger, 1992, pp. 53-79.

Rest, A., 'The Sandoz Conflagration and the Rhine Pollution: Liability Issues', 30 *German Yearbook of International Law*, 1987a, pp. 160-176.

Rest, A., 'The Sandoz Blaze and the Pollution of the Rhine in Regard to Public International Law, Private International Law and National Liability Issues', 3 *Tijdschrift voor Milieu Aansprakelijkheid*, 1987b, pp. 59-65.

Rest, A., 'New Legal Instruments for Environmental Prevention, Control and Restoration in Public International Law', 23(6) *Environmental Policy and Law*, 1993, pp. 260-272.

Reyners, P. & E. Lellouche, 'Regulation and Control by International Organizations in the Context of a Nuclear Accident: The International Atomic Energy Agency and the OECD Nuclear Energy Agency' in P. Cameron et al. eds., *Nuclear Energy Law After Chernobyl.* London: Graham and Trotman Inc., 1988, pp. 1-17.

Robinson, N., 'Legal Systems, Decisionmaking, and the Science of Earth's Systems: the Procedural Missing Links', 27(4) *Ecology Law Quarterly* 2001, pp. 1077-1161.

Roderick, P., ed., Conference Report: *Human Rights Approaches to Environmental Protection in the Commonwealth and Beyond*, London: Commonwealth Institute, 1993.

Romano, C., *The ILO System of Supervision and Compliance Control: A Review and Lessons for Multilateral Environmental Agreements*, International Institute for Applied Systems Analysis, Laxenburg, ER-96-1, May 1996.

Roots, E.F., 'Environmental Information - A Step to Knowledge and Understanding', 20(2-3) *Environmental Montoring and Assessment*, 1992, pp. 87-94.

Rothwell, D.R., *Polar Regions and the Development of International Law*, Cambridge: Cambridge University Press, 1996.

Rothwell, D.R., 'Polar Environmental Protection and International Law: The 1991 Antarctic Protocol', 11(3) *European Journal of International Law*, 2000, p. 591-614.

Rosas, A. & Z. Brodecki, 'State Liability for Transboundary Environmental Damage', appendix in P. Wetterstein, *Damage from International Disasters. AIDA General Report*, 1990.

Rosas, A., 'Issues of State Liability for Transboundary Environmental Damage', 60 *Nordic Journal of International Law*, 1991, pp. 29-48.

Rosas, A. 'The Concept of Verification' in R. Hanski, A. Rosas & K. Stendahl, *Verification of Arms Control Agreements*, Turku, 1991, pp. 5-6.

Rosas, A., 'International Monitoring Mechanisms in Situations of Armed Conflict', in A. Bloed et al eds., *Monitoring Human Rights in Europe. Comparing International Procedures and Mechanisms.* Dordrecht: Martinus Nijhoff, 1993, pp. 221-246.

Rosas, A., 'Emergency Regimes: A Comparison' in D. Gomien, ed., *Broadening the Frontiers of Human Rights: Essays in Honour of Asbjorn Eide.* Oslo: Scandinavian University Press, 1993.

Rosas, A., 'State Responsibility and Liability under Civil Liability Regimes', in *Essays in Honour of Jerzy Sztucki*, Stockholm, 1994.

Rosas, A. & M. Scheinin, 'Implementation Mechanisms and Remedies', in Eide, A., C. Krause & A. Rosas, eds., *Economic, Social and Cultural Rights. A Textbook*, Dordrecht: Martinus Nijhoff, 1995, pp. 355-380.

Rose, E., 'Transboundary Harm: Hazardous Waste Management Problems and Mexico's Maquiladoras', 23(1) *The International Lawyer* (1989), pp. 223-244.

Rosenstock, R., 'The Forty-sixth Session of the International Law Commission', 89(2) *American Journal of International Law*, 1995, pp. 390-395.

Rossilion, C., 'ILO Examination of Human Rights Situations: New Procedures for Special Surveys on Discrimination', 12 *The Review of the International Commission of Jurists*, 1974, pp. 40-49.

Rothwell, D., *The Madrid Protocol and Its Relationship with the Antarctic Treaty System*, Hobart: Faculty of Law, University of Tasmania, 1992.

Rousseau, Ch., *Droit international public. Tome I. Introduction et sources*. Paris: Editions Sirey, 1970.

Rowan-Robinson, J, A. Ross, W. Walton & J. Rothnie, 'Public Access to Environmental Information: A Means to What End?', 8(1) *Journal of Environmental Law*, 1996, pp. 19-42.

Rüster, B, B. Simma & M. Bock, eds., *International Protection of the Environment. Treaties and Related Documents*, 1970-1983.

Saarenpää, A. & M. Suksi, eds., *Rätten till information som en mänsklig rättighet*. Institutet för mänskliga rättigheter vid Åbo Akademi/Institutet för rättsinformatik vid Lapplands Universitet, XI Nordiska mötet i rättsinformatik, Åbo 24.-25.11 1995, Åbo/Rovaniemi, 1997.

Sachariev, K., 'Promoting Compliance with International Environmental Legal Standards: Reflections on Monitoring and Reporting Mechanisms', 2 *Yearbook of International Environmental Law*, 1991, pp. 31-52.

de Sadeleer, N., 'Le statut juridique du principe de précaution en droit communautaire: du slogan à la règle', 1-2 *Cahiers de droit européen* 2001, pp. 91-132.

Sadeniemi, P., *Principles of Legitimacy and International Relations*, Helsinki: Helsingin yliopisto, Yleisen valtio-opin laitos, 4 "Tutkimustietoa politiikasta ja hallinnosta", 1995.

Salo, A., 'Information Exchange After Chernobyl. From a Radiation Protection Viewpoint, Observations on the Information Flow', 28(3) *IAEA Bulletin*, 1986, pp. 18-22.

Samson, K., 'The Standard-Setting and Supervisory System of the International Labour Organisation' in Drzewicki, K, C. Krause, & A. Rosas, eds., *Social Rights as Human Rights. A European Challenge*, Åbo: Institute for Human Rights, Åbo Akademi University, 1994, pp. 115-149.

Sand, P.H., *Lessons Learned in Global Environmental Governance*, World Resources Institute, 1990.

Sand, P.H., 'Transnational Environmental Disputes' in D. Bardonnet, ed., *The Peaceful Settlement of International Disputes in Europe: Future Prospects*. Dordrecht: Martinus Nijhoff, 1991.

Sand, P.H., 'New Approaches to Transnational Environmental Disputes', 3(3) *International Environmental Affairs*, 1991, pp. 193-206.

Sand, P.H., *The Effectiveness of International Environmental Agreements. A Survey of Existing Legal Instruments*. Cambridge: Grotius Publications Ltd., 1992.

Sand, P.H., 'UNCED and the Development of International Environmental Law', 3 *Yearbook of International Environmental Law*, 1992, pp. 3-17.

Sand, P.H., 'International Environmental Law After Rio', 4(3) *European Journal of International Law*, 1993, pp. 377-389.

Sand, P., 'International Economic Instruments for Sustainable Development: Sticks, Carrots and Games', 36(2) *Indian Journal of International Law*, 1996, pp. 1-16.

Sand, P.H., *Transnational Environmental Law. Lessons in Global Change*, The Hague: Kluwer Law International, 1999.

Sands, P., *Chernobyl: Law and Communication*. Cambridge: Grotius Publications, 1988.

Sands, P., 'The Environment, Community and International Law', 30(2) *Harvard International Law Journal*, 1989, pp. 393-420.

Sands, P. & A. Bedecarré, 'Convention on International Trade in Endangered Species: the Role of Public Interest Non-Governmental Organizations in Ensuring the Effective Enforcement of the Ivory Trade Ban', 17(4) *Boston College Environmental Affairs Law Review*, 1990, pp. 799-822.

Sands, P., 'The Role of Non-Governmental Organizations in Enforcing International Environmental Law', in W.E. Butler, ed., *Control over Compliance with International Law*, Dordrecht: Martinus Nijhoff, 1991, pp. 61-68.

Sands, P. (ed.), *Greening International Law*. London: Earthscan Publications, 1993.

Sands, P., *Principles of International Environmental Law. Frameworks, Standards and Implementation*, vol. I, Manchester: Manchester University Press, 1995.

Sands, P., 'Sustainable Development: Treaty, Custom, and the Cross-fertilization of International Law', in Boyle, A. & D. Freestone, eds., *International Law and Sustainable Development – Past Achievements and Future Challenges*, Oxford: Oxford University Press, 1999, pp.39-60.

Sayn-Wittgenstein, L., 'Barriers to the Use of Remote Sensing in Providing Environmental Information', 20(2-3) *Environmental Montoring and Assessment*, 1992, pp. 159-166.

Scherr, J.S., 'Hazardous Exports: U.S. and International Policy Developments' in Ch. S. Pearson ed., *Multinational Corporations, Environment,and the Third World: Business Matters*. Durham: Duke University Press, 1987, pp. 129-148.

Scherzberg, A., 'Freedom of Information - deutsch gewendet: Das neue Umweltinformationsgesetz', 13 *Deutsches Vervaltungsblatt*, 1994, pp. 733-745.

Schrader, Ch., 'Kostenerhebung für den Zugang zu Umweltinformationen. Nationales Recht im Konflikt mit Europarechtlichen Vorgaben', 5 *Zeitschrift für Umweltrecht*, 1994, pp. 221-225.

Schwabach, A., 'The Sandoz Spill: The Failure of International Law to Protect the Rhine from Pollution', 16(2) *Ecology Law Quarterly*, 1989, pp. 443-480.

Schwarzenberger, G., *Einführung in das Völkerrecht*. Tübingen: J.C.B. Mohr (Paul Siebeck), 1951.

Schwarzenberger, G., *A Manual of International Law*. 5 th ed. London: Stevens & Sons Limited, 1967.

Schweitz, M.L., 'NGO Participation in International Governance: The Question of Legitimacy', American Society of International Law, *Proceedings of the 89th Annual Meeting*, New York, April 5-8 1995, pp. 415-420.

Scott, C., 'Bodies of Knowledge: A Diversity Promotion Role for the UN High Commissioner for Human Rights', in Alston, P. & J. Crawford eds., *The Future of UN Human Rights Treaty Monitoring*, Cambridge, Cambridge University Press, 2000, pp. 403-437.

Scott, R., 'The Toxic Time Bomb in the Borderland: Can the 'Emergency Planning and Community Right to Know Act' Help?', 30(4) *Natural Resources Journal*, 1990, pp. 969-979.

Shelton, D., 'International Enforcement of Human Rights: Effectiveness and Alternatives', in *Perspectives on Enforcement of Human Rights: Reprinted from the Proceedings of the 74th Annual Meeting of the American Society of International Law*, April 17-19 1980, pp. 6-16.

Shelton, D., 'Human Rights, Environmental Rights, and the Right to the Environment', 28 *Stanford Journal of International Law*, 1991, p. 103-

Shelton, D., 'What Happened in Rio to Human Rights?', 3 *Yearbook of International Environmental Law*, 1992, pp. 91-

Shelton, D., ed., *Commitment and Compliance: The Role of Non-Binding Norms in the International Legal System.* Oxford: Oxford University Press, 2000.

Shelton, D., 'Human Rights and Environmental Issues in Multilateral Treaties Adopted between 1991 and 2001', Background Paper Nr. 1, Joint UNEP-OHCHR Expert Seminar on Human Rights and the Environment, Geneva 14-16 January 2002, http://.unhchr.ch/environment/bp1.html.

Shihata, I.F.I, *The World Bank Inspection Panel*, Published for the World Bank: Oxford University Press, 1994.

Shrader-Frechette, K.S., *Risk and Rationality: Philosophical Foundations for Populist Reforms*. Berkeley: University of California Press, 1991.

Sikkink, K., 'Nongovernmental Organizations and Transnational Issue Networks in International Politics', American Society of International Law, *Proceedings of the 89th Annual Meeting*, New York, April 5-8 1995, pp. 413-415.

Sinjela, A.M., 'Developing Countries' Perceptions of Environmental Protection and Economic Development', 24 *Indian Journal of International Law* 1984, pp. 489-503.

Sjöberg, H., 'The Global Environment Facility', in Werksman, J.D., ed., *Greening International Institutions*, London: Earthscan, 1996, pp. 148-162.

Sjöstedt, G., B.I. Spector & W. Zartman, 'The Dynamics of Regime-building Negotiations', in B.I. Spector et al. (eds.), *Negotiating International Regimes: Lessons Learned from the United Nations Conference on Environment and Development*, London: Graham & Trotman, 1994, pp. 3-19.

Sjöstedt, G., B.I. Spector & W. Zartman, 'Looking Ahead', in B.I. Spector et al. (eds.), *Negotiating International Regimes: Lessons Learned from the United Nations Conference on Environment and Development*, London: Graham & Trotman, 1994, pp. 233-249.

Skjaerseth, J.B., 'The "Effectiveness" of the Mediterranean Action Plan', 5(4) *International Environmental Affairs*, 1993, pp. 313-334.

Skogly, S.I., 'Human Rights Reporting: the Nordic Experience', 12 *Human Rights Quarterly*, 1990, pp. 513-528.

Smets, H., 'Industrial Risk and the Right to Know', 158 *The OECD Observer*, 1989, pp. 16-19.

Smets, H., 'The Right to Information on the Risks Created by Hazardous Installations at the National and International Levels', in F. Francioni & T. Scovazzi, eds., *International Responsibility for Environmental Harm*. London: Graham & Trotman, 1991, pp. 449-472.

Smith, B.D., *State Responsibility and the Marine Environment: The Rules of Decision*. Oxford: Clarendon Press, 1988.

Söderman, J., 'The Role and Impact of the European Ombudsman in Access to Documentation and the Transparency of Decision-Making', in Deckmyn, V. & I. Thomson, eds., *Openness and Transparency in the European Union*, Maastricht: European Institute of Public Administration, 1998, pp. 75-84.

Sohn, L.B. 'The Stockholm Declaration on the Human Environment', 14 *Harvard International Law Journal*, 1973, pp. 423-515.

Soljan, L., 'The General Obligation to Prevent Transboundary Harm and its Relation to Four Key Environmental Principles', 3(2) *Austrian Review of International and European Law* 1998, pp. 209-232.

Spector, B.I. et al. (eds.), *Negotiating International Regimes: Lessons Learned from the United Nations Conference on Environment and Development*, London: Graham & Trotman, 1994.

Spinedi, M. & B. Simma, *United Nations Codification of State Responsibility*. New York: Oceana Publications, 1987.

Spitzer, D., 'On Applications of Remote Sensing for Environmental Monitoring', 7(3) *Environmental Monitoring and Assessment*, 1986, pp. 263-271.

Springer, A.L., *The International Law of Pollution. Protecting the Global Environment in a World of Sovereign States*. Westport: Quorum Books, 1983.

Ståhlberg, P., *Ydinvastuusta. Vahingonkorvausoikeudellinen tutkimus erityisesti ydinvoimalaonnettomuudesta aiheutuvien vahinkojen kannalta*, Helsinki: Suomalainen lakimiesyhdistys, 1993.

Steiner, H.J. & P. Alston, *International Human Rights in Context: Law, Politics, Morals*, Oxford: Clarendon Press, 1996.

Stern, P.C., O.R. Young & D. Druckman, eds., *Global Environmental Change. Understanding the Human Dimension*. Washington, D.C.: National Academy Press, 1992.

Stewart, R.B., 'Regulation, Innovation and Administrative Law: A Conceptual Framework', 69 *California Law Review*, 1981, pp. 1259-1377.

Stiglitz, J., 'On Liberty, the Right to Know, and Public Discourse: The Role of Transparency in Public Life', Oxford Amnesty Lecture, Oxford, January 27, 1999.

Stokes, P, M. Havas & T. Brydges, 'Public Participation and Volunteer Help in Monitoring Programs: An Assessment', 15(3) *Environmental Monitoring and Assessment*, 1990, pp. 225-229.

Stone, C.D., 'Should Trees Have Standing? Toward Legal Rights for Natural Objects', 45 *Southern California Law Review*, 1972, pp. 450-.

Stone, C.D., 'Should Trees Have Standing? Revisited - How Far Will Law and Morals Reach? A Pluralist Perspective', 59 *Southern California Law Review*, 1985.

Stuckey, D.C., 'Early Notification of a Nuclear Accident: The Response to Chernobyl', XIV(3) *Brooklyn Journal of International Law*, 1988, pp. 687-713.

Stutzin, G., 'Should We Recognize Nature's Claim to Legal Rights? An Essay', 2(3) *Environmental Policy and Law*, 1976, p. 129.

Suksi, M., 'Inledning', in Saarenpää, A. & M. Suksi, eds., *Rätten till information som en mänsklig rättighet.* Institutet för mänskliga rättigheter vid Åbo Akademi/Institutet för rättsinformatik vid Lapplands Universitet, XI Nordiska mötet i rättsinformatik, Åbo 24.-25.11 1995, Åbo/Rovaniemi, 1997, pp. 1-4.

Sur, S., *A Legal Approach to Verification in Disarmament or Arms Limitation*, Geneva: United Nations Institute for Disarmament Research, Research Paper No. 1, 1988

Susskind, L.E., *Environmental Diplomacy. Negotiating More Effective Global Agreements*, Oxford: Oxford University Press, 1994.

Susskind, L.E., 'What Will It Take to Ensure Effective Global Environmental Management? A Reassessment of Regime-building Accomplishments', in B.I. Spector et al. (eds.), *Negotiating International Regimes: Lessons Learned from the United Nations Conference on Environment and Development*, London: Graham & Trotman, 1994, pp. 221-232.

Suy, E., 'The Development of Supervisory Mechanisms Within the CSCE Framework', in N. Blokker & S. Muller (eds.), *Towards More Effective Supervision by International Organizations. Essays in Honour of Henry G. Schermers*, Vol. 1, Dordrecht: Martinus Nijhoff Publishers, 1994?, pp. 83-92.

Szafarz, R., 'Remote Sensing of the Earth from Outer Space and its Regulation in the UN Resolution of 1986', 17 *Polish Yearbook of International Law*, 1988, pp. 229-242.

Szasz, P.C., 'Introductory Note', in 33 *International Legal Materials* 1514, 1994.

Szasz, P.C., ed., *Administrative and Expert Monitoring of International Treaties*, New York: Transnational Publishers, 1999.

Széll, P., 'Ozone Layer and Climate Change', in W. Lang, H. Neuhold & K. Zemanek, eds., *Environmental Protection and International Law*, London: Graham & Trotman, 1991, pp. 167-185.

Széll, P., 'The Development of Multilateral Mechanisms for Monitoring Compliance', in W. Lang (ed.), *Sustainable Development and International Law*, London: Graham & Trotman, 1995, pp. 97-113.

Széll, P., 'Decision Making under Multilateral Environmental Agreements', 26/5 *Environmental Policy and Law*, 1996, pp. 210-214.

Taylor , Ch., *Autenttisuuden Etiikka*, Helsinki, Gaudeamus, 1995. (original: *The Ethics of Authenticity*, 1991).

Taylor, P., *Nonstate Actors in International Politics. From Transregional to Substate Organizations*, Boulder: Westview Press, 1984.

Taylor, P., *An Ecological Approach to International Law: Responding to the Challenges of Climate Change.* London: Routledge, 1998.

Testart, J., 'How to Let Ordinary People in on the Future: Be Careful, Take Precautions' in *Le Monde Diplomatique*, English version September 2000.

Teubner, G., 'After Legal Instrumentalism? Strategic Models of Post-Regulatory Law', in Teubner, G., ed., *Dilemmas of Law in the Welfare State*, Berlin, 1985, pp. 299-325.

Theytaz-Bergman, L., 'NGO Group for the Convention on the Rights of the Child', in *Monitoring Children's Rights*, E. Verhellen ed., *Monitoring Children's Rights*, Dordrecht: Kluwer Law International, 1996, pp. 537-540.

Thomson, I., 'The Emergence of the Transparency Theme', in Deckmyn, V. & I. Thomson, eds., *Openness and Transparency in the European Union*, Maastricht: European Institute of Public Administration, 1998, pp. 1-8.

Thornton, J. & S. Tromans, 'Human Rights and Environmental Wrongs. Incorporating the European Convention on Human Rights: Some Thoughts on the Consequences for UK Environmental Law', 11(1) *Journal of Environmental Law*, 1999, pp. 35-57.

Thoolen, H. & B. Verstappen, *Human Rights Missions. A Study of the Fact-finding Practice of Non-governmental Organization*, Dordrecht: Martinus Nijhoff, 1986.

Timoshenko, A.S., 'Control Machinery in the Ecological Security System', in W.E. Butler, ed., *Control over Compliance with International Law*, Dordrecht: Martinus Nijhoff, 1991, pp. 51-59.

Tolbert, D., 'Global Climate Change and the Role of International Non-governmental Organisations', in R. Churchill & D. Freestone, eds., *International Law and Global Climate Change*, 1991, pp. 95-108.

Tolentino, A.S., 'Environnement et information' in P. Kromarek ed., *Environnement et droits de l'homme*. Paris: UNESCO, 1987, pp. 29-38.

Tomasevski, K., 'Environmental Rights', in Eide, A., C. Krause & A. Rosas, eds., *Economic, Social and Cultural Rights. A Textbook,* Dordrecht: Martinus Nijhoff, 1995, pp. 257-269.

Tomuschat. C., 'International Liability for Injurious Consequences Arising Out of Acts Not Prohibited by International Law: The Work of the International Law Commission', in F. Francioni & T. Scovazzi, eds., *International Responsibility for Environmental Harm.* London: Graham & Trotman, 1991, pp. 37-72.

Tunkin, G., "General Principles of Law' in International Law', in R. Marcic et al. eds., *Internationale Festschrift für Alfred Verdross*. München: Wilhelm Fink Verlag, 1971, pp. 523-532.

Turiaux, A., 'Das neue Umweltinformationsgesetz', 36 *Neue Juristische Wochenschrift*, 1994, pp. 2319-2324.

Udall, L., 'The World Bank and Public Accountability: Has Anything Changed?' in Fox, J.A. & L.D. Brown, eds., *The Struggle for Accountability. The World Bank, NGOs and Grassroots Movements*, Cambridge, Massachusetts: The MIT Press, 1998, pp. 391-436.

Underdal, A., 'Measuring and Explaining Regime Effectiveness', in P.M. Haas, H. Hveem (ed.), R.O. Keohane, A. Underdal, *Complex Cooperation. Institutions and Processes in International Resource Management*, Oslo: Scandinavian University Press, 1994, pp. 92-123.

UNESCO, *Les dimensions internationales du droit du cyberespace*, Paris: Editions UNESCO, 2000.

Urstadt, J., 'International Legal Regimes for Trans-boundary Harm: An Economic Analysis', 3(2)
Austrian Review of International and European Law 1998, pp. 267-293.

Vallauri, J.-P., 'L'information du public', 3 *Revue juridique de l'environnement*, 1989, pp. 293-299.

Valticos, N., 'Once More About the ILO System of Supervision: In What Respect is it Still a Model?', in N. Blokker & S. Muller (eds.), *Towards More Effective Supervision by International Organizations. Essays in Honour of Henry G. Schermers*, Vol. 1, Dordrecht: Martinus Nijhoff Publishers, 1994, pp. 99-113.

Vasak, K., 'The Distinguishing Criteria of Institutions', in K. Vasak, ed., *The International Dimensions of Human Rights*. Westport: Greenwood Press, 1982.

Verdross, A., *Die Verfassung der Völkerrechtsgemeinschaft*. Wien: Springer, 1926.

Verdross, A., *Völkerrecht*. Wien: Springer, 1955.

Verhoeven, J., Sands, P., Bruce, M., *The Antarctic Environment and International Law*, Boston: Graham & Trotman, 1992.

Vessey, J., 'The Principle of Prevention in International Law', 3(2) *Austrian Review of International and European Law* 1998, pp. 181-207.

Victor, D. & A. Chayes & E.B. Skolnikoff, 'Pragmatic Approaches to Regime-Building for Complex International Problems', in N. Choucri ed., *Global Accord: Environmental Challenges and International Responses*, MIT Press, 1993, pp. 453-474.

Victor, D., *The Early Operation and Effectiveness of the Montreal Protocol's Non-Compliance Procedure*, International Institute for Applied Systems Analysis, Laxenburg, ER-96-2, May 1996.

Victor, D., 'The Use and Effectiveness of Nonbinding Instruments in the Management of Complex International Environmental Problems', *Paper* presented at the *91st Annual Meeting of the American Society of International Law*, April 11, 1997, Washington D.C.

Victor, D.G., K. Raustiala & E.B Skolnikoff, 'Chapter 1: Introduction and Overview', in *The Implementation and Effectiveness of International Environmental Commitment: Theory and Practice*, International Institute for Applied Systems Analysis, Laxenburg, 1998.

Victor, D.G, ed., *The Implementation and Effectiveness of International Environmental Commitment: Theory and Practice*, International Institute for Applied Systems Analysis, Laxenburg, 1998.

Viljoen, F., 'State Reporting under the African Charter on Human and Peoples' Rights: A Boost from the South', 44(1) *Journal of African Law* 2000, pp. 110-118.

Vinogradov, S.V., 'Verification Machinery in the Antarctic Treaty System' in W.E. Butler, ed., *Control over Compliance with International Law*, Dordrecht: Martinus Nijhoff, 1991, pp. 97-105.

Voelckel, M., 'L'inspection en Antarctique', in G. Fischer & D. Vignes eds., *L'inspection internationale*, Bruxelles: Établissements Émile Bruylant, 1976, pp. 223-246.

Vu, Hao-Nhien Q., 'The Law of Treaties and the Export of Hazardous Waste', 12 *UCLA Journal of Environmental Law and Policy* 1994, p. 389.

Wagner, Th., *Der technisch-industrielle Umweltnotfall im Recht der Europäischen Gemeinschaften. 25 Schriften zum Umweltrecht.* Berlin: Duncker & Humblot.

Walls, M.P., 'Chemical Exports and the Age of Consent; the High Cost of International Export Control Proposals', 20(3) *New York University Journal of International Law and Politics* 1988, pp. 753-775.

Walters, G.J., *Human Rights in an Information Age. A Philosophical Analysis*, Toronto: University of Toronto Press, 2001.

Watts, A., *International Law and the Antarctic Treaty System*, Cambridge: Grotius Publications, 1992.

Waugh, T., 'Where Do We Go from Here: Legal Controls and Future Strategies for Addressing the Transportation of Hazardous Wastes Across International Borders', 11 *Fordham Environmental Law Journal*, 2000, pp. 477-544.

Weber, M., *Gesamtausgabe*, herasugegeben von Baier, H. *et al.*, Tübingen: J.C.B. Mohr, 1998.

Weber, S., 'Environmental Information and the European Convention on Human Rights', 12(5) *Human Rights Law Journal*, 1991, pp. 177-185.

Wedgwood, 'The Internet and Public International Law: Cyber-Nations', 88 *Kentucky Law Journal*, 2000, pp. 957-.

Werksman, J.D., ed., *Greening International Institutions*, London: Earthscan, 1996.

Westerveen, G., 'Towards a System for Supervising States' Compliance with the Right to Food', in P. Alston & K. Tomasevski, eds., *The Right to Food*, Dordrecht: Martinus Nijhoff, 1984, pp. 119-134.

Westing, A.H. (ed.), *Comprehensive Security for the Baltic: an Environmental Approach.* London: Sage Publications, 1990.

Westlake, M., 'Maastricht, Edinburgh, Amsterdam: the "End of the Beginning"', in Deckmyn, V. & I. Thomson, eds., *Openness and Transparency in the European Union*, Maastricht: European Institute of Public Administration, 1998, pp. 127-143.

Wetterstein, P., *Damage from International Disasters*. AIDA General Report, 1990.

Wettestad, J., 'The "Effectiveness" of the Paris Convention on Marine Pollution from Land-based Sources', 4(2) *International Environmental Affairs*, 1992, pp. 101-121.

Will, M.R., 'Liability for Failure to Warn in the European Community' in M.S. Baram & D.G. Partan, eds., *Corporate Disclosure of Environmental Risks. U.S. and European Law.* Salem: Butterworth Legal Publishers, 1990, pp. 275-301.

Winter, G., *Öffentlichkeit von Umweltinformationen. Europäische und nordamerikanische Rechte und Erfahrungen*. Baden-Baden: Nomos Verlagsgesellschaft, 1990.

Winter, G., 'Access of the Public to Environmental Data from Satellite Remote Sensing', 6(1) *Journal of Environmental Law*, 1994, pp. 43-55.

Winter, G., 'Notifizierung und Andienung bei grenzüberschreitender Verbringung von gefährlichen Abfällen zur Verwertung', 20(5) *Natur + Recht*, 1998, pp. 233-240.

Wirth, D., 'Re-examining Decision-Making in International Environmental Law', 79 *Iowa Law Review* 1994, pp. 769-802.

Wirth, D., 'Trade Implications of the Basel Convention Amendment Banning North-South Trade in Hazardous Wastes', 7(3) *Review of European Community and International Environmental Law*, 1998, pp. 237-248.

Wolfrum, R., 'The Convention on Biological Diversity: Using State Jurisdiction as a Means of Ensuring Compliance', in R. Wolfrum, ed., *Enforcing Environmental Standards. Economic Mechanisms as Viable Means?*, Berlin: Springer Verlag, 1996, pp. 373-393.

Wolfrum, R. & C. Langenfeld, eds., *Umwelschutz durch internationales Haftungsrecht*, Berlin: Erich Schmidt Verlag, 1999.

Woodliffe, J., 'Tackling Transboundary Environmental Hazards in Cases of Emergency: The Emerging Legal Framework', in R. White & B. Smythe eds., *Current Issues in European and International Law: Essays in Memory of Frank Dowrick.* London: Sweet & Maxwell, 1990, pp. 105-134.

Worster, D., 'The Shaky Ground of Sustainability', in W. Sachs, (ed.), *Global Ecology. A New Arena of Political Conflict*, London: Zed Books, 1993, pp. 132-145.

Wynne, B., 'The Toxic Waste Trade: International Regulatory Issues and Options', 11(3) *Third World Quarterly* 1989, pp. 120-146.

Wynne, B., 'Risk Communication for Chemical Plant Hazards in the European Community Seveso Directive', in M.S. Baram & D.G. Partan, eds., *Corporate Disclosure of Environmental Risks. U.S. and European Law.* Salem: Butterworth Legal Publishers, 1990, pp. 89-107.

Yellin, J., 'Science, Technology, and Administrative Institutional Design for Environmental Decision-Making', 92 *Yale Law Journal*, 1983, pp. 1300-1333.

Young, O., *International Co-operation: Building Regimes for Natural Resources and for the Environment*, Ithaca, N.Y.: Cornell University Press, 1989.

Young, O., 'Global Environmental Change and International Governance', 19(3) *Millennium*, 1990, pp. 337-346.

Young, O., *On the Effectiveness of International Regimes: Defining Concepts and Identifying Variables*, Dartmouth College, 1991.

Young, O., 'The Effectiveness of International Institutions; Hard Cases and Critical Variables', in J. N. Rosenau & O. Czempiel eds., *Governance Without Government: Change and Order In World Politics*, New York: Cambridge University, 1991, pp. 160-

Young, O., 'Negotiating and International Climate Regime: The Institutional Bargaining for Environmental Governance', in N. Choucri, ed., *Global Accord: Environmental Challenges and International Responses*, Global Environmental Accords Series. Cambridge, MA, MIT Press, 1993, pp. 431-451.

Young, O., *International Governance: Protecting the Environment in a Stateless Society.* Cornell University Press, 1994.

Young, O., ed., *The Effectiveness of International Environmental Regimes: Causal Connections and Behavioral Mechanisms*, 1999.

Zehetner, 'Verfahrenspflichten bei Zulassung umweltbelastender Anlagen', in M. Bothe, M. Prieur, G. Ress, eds., *Rechtsfragen grenzüberschreitender Umweltbelastungen - Les problèmes juridiques posés par les pollutions transfrontières.* Fachtagung/Colloque Saarbrücken, 13-15. 5 1982. Berlin: Erich Schmidt Verlag, 1982, pp. 43-56.

Ziller, J., 'European Models of Government: Towards a Patchwork with Missing Pieces?', 54(1) *Parliamentary Affairs*, 2001, pp. 102-119.

Treaties:

Convention for the Preservation of Wild Animals, Birds and Fish in Africa, London, 19.5.1900. 94 *British and Foreign State Papers* 715.

Second Hague Peace Conference Conventions, 18.10.1907; The Hague Convention VIII Relative to the Laying of Automatic Submarine Contact Mines, the Hague, 18.10.1907, entry into force 26.1.1910. *Finlands författningssamlings fördragsserie* 11/1924.
Great Britain-United States: Treaty Relating to Boundary Waters and Questions Arising Along the Boundary Between the United States and Canada, Washington, 11.1.1909, entry into force 5.5.1910. 36 Stat. 2448, T.S. No. 548.

Constitution of the International Labour Organisation, Versailles, 28.6.1919, entry into force 10.1.1920, 15 *United Nations Treaty Series* 35.

Convention Relative to the Preservation of Fauna and Flora in their Natural State, London, 8.11.1933, entry into force 14.1.1936. 172 *League of Nations Treaty Series* 241.

Charter of the United Nations, San Francisco, 26.6.1945, entry into force 24.10.1945. 1 *United Nations Treaty Series* xvi; *United Kingdom Treaty Series* 67 (1946).

Statute of the International Court of Justice, San Francisco, 26.6.1945, entry into force 24.10.1945. *United Kingdom Treaty Series* 67 (1946).

International Convention for the Regulation of Whaling, Washington, 2.12.1946, entry into force 10.11.1948; *Protocol of Amendment, Washington, 19.11.1956. 161 *United Nations Treaty Series* 72.

General Agreement on Tariffs and Trade, Geneva, 30.10.1947, entry into force 1.1.1948. 55 *United Nations Treaty Series* 187.

Convention for the Protection of Human Rights and Fundamental Freedoms, Rome, 4.11.1950, entry into force 3.9.1953. 213 *United Nations Treaty Series* 221.

Convention relating to the Status of Refugees, 28.7.1951, entry into force 22.4.1954.

*Protocol related to the Status of Refugees, 31.1.1967, entry into force 4.10.1967.

International Convention for the Prevention of Pollution of the Sea by Oil, London, 12.5.1954, entry into force 26.7.1958. 327 *United Nations Treaty Series* 3.

Treaty Establishing the European Economic Community, Rome, 25.3.1957, entry into force 1.1.1958. 298 *United Nations Treaty Series* 11.

Treaty Establishing the European Atomic Energy Community, Rome, 25.3.1957, entry into force 1.1.1958. 298 *United Nations Treaty Series* 167.

Convention on the High Seas, Geneva, 29.4.1958, entry into force 30.9.1962. 450 *United Nations Treaty Series* 82 (1958)

France-Spain: Agreement on French and Spanish Fire Emergency Services, 14.7.1959.

Antarctic Treaty, Washington, 1.12.1959, entry into force 23.6.1961, 402 *United Nations Treaty Series* 71.

*Protocol to the Antarctic Treaty on Environmental Protection, Madrid, 4.10.1991, entry into force 14.1.1998, 30 *International Legal Materials* 1461 (1991).

Agreement Concerning Co-operation in the Quarantine of Plants and their Protection against Pests and Diseases, Sofia, 14.12.1959, entry into force 19.10.1960. 1 *UNEP Selected Multilateral Treaties in the Field of the Environment* 153.

Convention on Third Party Liability in the Field of Nuclear Energy, Paris, 29.7.1960, entry into force 1.4.1968. 956 *United Nations Treaty Series* 251 (1960).

*Convention Supplementary to the Paris Convention of 29.7.1960 on Third Party Liability in the Field of Nuclear Energy, Brussels, 31.1.1963, entry into force 4.12.1974 (amended 28.1 1964, entry into force 16.12.1974). 2 *International Legal Materials* 685 (1963).

Agreement on the Protection of Lake Constance Against Pollution, Steckborn, 27.10.1960. Burhenne, ed., 960:80 *International Environmental Law, Multilateral Treaties.*

Convention on the Organization for Economic Co-operation and Development, Paris, 14.12.1960, entry into force 30.9.1961.

The European Social Charter (Council of Europe), 18.10.1961, entry into force 26.2.1965, Additional Protocol, 5.5.1988, entry into force 4.9.1992; Amending Protocol 21.10.1991; Additional Protocol to the European Social Charter Providing for a System of Collective Complaints, 1995, in force July 1998, *European Treaty Series* No. 158.

Protocol Concerning the Constitution of an International Commission for the Protection of the Mosel Against Pollution, Paris, 20.12.1961, entry into force 1.7.1962. 1 *UNEP Selected Multilateral Treaties in the Field of the Environment*, pp. 165-166.

Argentina-Chile: Agreement concerning the Protection of Frontier Forests Against Fire, 29.12.1961.

Convention on the Liability of Operators of Nuclear Ships, Brussels, 25.5.1962, not in force. 57 *American Journal of International Law* 268 (1963).

Convention Concerning the International Commission for the Protection of the Rhine Against Pollution, Berne, 29.4.1963, entry into force 1.5.1965. 994 *United Nations Treaty Series* 3.

Convention on Civil Liability for Nuclear Damage and Optional Protocol, Vienna, 21.5.1963, entry into force 12.11.1977. 1063 *United Nations Treaty Series* 265 (1963).

Nordic Mutual Emergency Assistance Agreement in Connection With Radiation Accidents, Vienna, 17.10.1963, entry into force 19.6.1964. 525 *United Nations Treaty Series* 76 (1963).

Convention and Statute relating to the Development of the Chad Basin, Fort Lamy, Chad, 22.5.1964, 34 *Zeitschrift für ausländisches öffentliches Recht und Völkerrecht* 1974, pp. 76-80.

*Agreement Establishing the Lake Chad Basin Commission Development Fund, Yaoundé, 22.10.1972.

Act Regarding Navigation and Economic Co-operation between the States of the Niger Basin, Niamey, 26.10.1963, entry into force 1.2.1966. 587 *United Nations Treaty Series* 9.

Agreement Concerning the Niger River Commission and the Navigation and Transport on the River Niger, Niamey, 25.11.1964, entry into force 12.4.1966, 587 *United Nations Treaty Series* 9.

International Convention on the Elimination of All Forms of Racial Discrimination, 21.12.1965, entry into force 4.1.1969, 660 *United Nations Treaty Series* 195 (1969).

Convention on the Regulation of Water Abstractions from the Lake Constance, Bern, 30.4.1966, entry into force 25.11.1967. 620 *United Nations Treaty Series* 199.

Belgium-France: Convention on Radiological Protection Relating to the Installations at the Ardennes Nuclear Power Station, 23.9.1966. 988 *United Nations Treaty Series* 288.

International Covenant on Economic, Social and Cultural Rights, New York, 16.12.1966, entry into force 3.1.1976, 993 *United Nations Treaty Series* 3.

International Covenant on Civil and Political Rights, New York, 16.12.1966, entry into force 23.3.1976, 999 *United Nations Treaty Series* 171.

Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, London, Moscow, Washington, 27.1.1967, entry into force 10.10.1967. 610 *United Nations Treaty Series* 205.

Finland-United Kingdom: Collaboration Agreement on the Peaceful Uses of Nuclear Energy, 24.5.1968, entry into force, 20.2.1969. *Finlands författningssamlings fördragsserie* 15-16/1969.

African Convention on the Conservation of Nature and Natural Resources, Algiers, 15.9.1968, entry into force 16.6.1969. 1001 *United Nations Treaty Series* 3.

Finland-Sweden: Collaboration Agreement on the Peaceful Uses of Nuclear Energy, 15.10.1968, entry into force 5.9.1970. *Finlands författningssamlings fördragsserie* 40-41/1970.

Finland-Soviet Union: Collaboration Agreement on the Peaceful Uses of Nuclear Energy, 14.5.1969, entry into force 28.9.1969. *Finlands författningssamlings fördragsserie* 38-39/1969.

Convention on the Law of Treaties, Vienna, 23.5.1969, entry into force 27..1980. 1155 *United Nations Treaty Series* 331.

Agreement for Co-operation in Dealing with Pollution of the North Sea by Oil, Bonn, 9.6.1969, entry into force 9.8.1969. 704 *United Nations Treaty Series* 3; Superseded by the Agreement for Co-operation in Dealing with Pollution of the North Sea by Oil and Other Harmful Substances, Bonn, 13.9.1983, entry into force 1.9.1989. *Command Paper* 9104.

American Convention on Human Rights, San José, 22.11.1969, entry into force 18.7.1978, 9 *International Legal Materials*, 673 (1970).

*Additional Protocol on Economic, Social and Cultural Rights, San Salvador, 17.11.1988, not in force, 28 *International Legal Materials*, 161 (1989).

International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Damage, Brussels, 29.11.1969, entry into force 6.5.1975. 9 *International Legal Materials* 25 (1970); *Protocol Relating to Intervention on the High Seas in Cases of Marine Pollution by Substances Other than Oil, London, 2.11.1973, entry into force 30.3.1983; amended 4.7.1991, in force 30.3.1993; amended 10.7.1996, entry into force 19.12.1997. U*nited Nations Legislative Series*, ST/LEG/SER.B/18:457; 68 *American Journal of International Law* 577 (1974).

International Convention on Civil Liability for Oil Pollution Damage, Brussels, 29.11.1969, entry into force 19.6.1975. 1975 *United Kingdom Treaty Series* 106; *Protocol, London, 19.11.1976, entry into force 8.4.1981. 16 *International Legal Materials* 617 (1977); *Protocol, London, 25.5.1984, IMO Doc. Leg./Conf. 6/66; *Protocol, London, 27.11.1992, entry into force 30.5.1996, IMO Doc. Leg/Conf.9/15.

Treaty on the Non-proliferation of Nuclear Weapons, London, Moscow, Washington, 1.7.1968, entry into force 5.3.1970. 729 *United Nations Treaty Series* 161; 7 *International Legal Materials* 809 (1968).

*Additional Protocol, 1997.

Convention for the Mutual Recognition of Inspections in Respect of the Manufacture of Pharmaceutical Products, Geneva, 1970.

Finland-United States: Agreement for Co-operation Concerning Civil Uses of Atomic Energy, 8.4.1970, entry into force 7.7.1970. *Finlands författningssamlings fördragsserie* 32-33/1970.

Canada-United States: Agreement Governing Mutual Co-operation in the Detection and Suppression of Forest Fires, 1.6.1971.

Nordic Agreement Concerning Co-operation in Measures to Deal with Pollution of the Sea by Oil, Copenhagen, 16.9.1971, entry into force 16.10.1971. 822 *United Nations Treaty Series* 311.

Convention relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material, Brussels, 17.12.971, entry into force 15.7.1975. *Command Paper* 5094.

International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, Brussels, 18.12.1971, entry into force 16.10.1978. 1971 *United Nations Juridical Yearbook* 103; *Protocol, London, 19.11.1976, entry into force 8.4.1981. 16 *International Legal Materials* 621 (1977); *Protocol, London, 25.5.1984, IMO Doc. LEG/CONF.6/67; *Protocol, London, 27.11.1992, entry into force 30.5.1996.

Convention for the Protection of Antarctic Seals, London, 11.2.972, entry into force 11.3.1978. 11 *International Legal Materials* 251 (1972).

Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft, Oslo, 15.2.1972, entry into force 7.4.1974. 11 *International Legal Materials* 262 (1972).

Convention on International Liability for Damage caused by Space Objects, Geneva, 29.3.1972, entry into force 1.9.1972. 961 *United Nations Treaty Series* 187 (1972).

Canada-United States: Agreement on Great Lakes Water Quality, Ottawa, 15.4.1972, entry into force 15.4.1972. 11 *International Legal Materials* 694 (1972).

Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, London, Mexico City, Moscow, Washington, 13.11.1972, entry into force 30.8.1975. Amended 12.10.1978, entry into force 11.3.1979; amended 24.9.1980, entry into force 11.3.1981; amended 3.11.1989, entry into force 19.5.1990; amended 12.11.1993, entry into force 20.2.1994; 11 *International Legal Materials* 1291 (1972).

*Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 7.11.1996, not in force.

Convention on International Trade in Endangered Species of Wild Fauna and Flora, Washington, 3.3.1973, entry into force 1.7.1975, 12 *International Legal Materials* 1085.

International Convention for the Prevention of Pollution from Ships, London, 2.11.1973, as amended by the Protocol, London, 17.2.1978, entry into force 2.10.1983.1 *UNEP Selected Multilateral Treaties in the Field of the Environment*, pp. 320-399; 17 *International Legal Materials* 546 (1978); amended 7.9.984, entry into force 7.1.1986; amended 5.12.1985, entry into force 6.4.1987; amended Dec. 1987, entry into force 1.4.1989; amended March 1989, entry into force 13.10.1990; amended 17.10.1989, entry into force 18.2.1991; amended March 1990, entry into force 3.2.2000; amended Nov. 1990, entry into force 17.2.1992; amended 4.7.1991, entry into force 4.4.1993;

amended 6 March 1992, entry into force 6.7.1993; amended 1.7.1994; amended 13.11.1994, entry into force 3.3.1996; amended 14.9.1995, entry into force 1.7.1997; amended 10.7.1996, entry into force 1.1.1998; amended 23.9.1997, entry into force 1.2.1999; * 1997 Protocol adding new Annex VI on Regulations for the Prevention of Air Pollution from Ships, 26.9.1997, not in force; Amendment of Annexes I and II, 1.7.1999, entry into force 1.1.2001

International Convention on the Suppression and Punishment of the Crime of Apartheid, 30.11.1973, entry into force 18.7.1976, 1015 *United Nations Treaty Series* 244 (1976).

Argentina-India: Agreement on Co-operation in the Peaceful Uses of Nuclear Energy, 28.5.1974. 31 *Nuclear Law Bulletin* 28 (1983).

Convention for the Prevention of Marine Pollution from Land-Based Sources, Paris, 4.6.1974, entry into force 6.5.1978, 1978 *United Kingdom Treaty Series* 64.

Austria-United States: Co-operation Agreement Concerning Civil Uses of Atomic Energy, 14.6.1974. *Treaties and Other International Acts Series* 7912.

Nordic Convention on the Protection of the Environment, Stockholm, 19.2.1974, entry into force 5.10.1976. 1092 *United Nations Treaty Series* 279 (1974).

Convention on the Protection of the Marine Environment of the Baltic Sea Area, Helsinki, 22.3.1974, entry into force 3.5.1980. 13 *International Legal Materials* 546 (1974).

Convention on the Protection of the Mediterranean Sea Against Pollution, Barcelona, 16.2.1976, entry into force 12.2.1978, amended Barcelona, 10.6.1995, not in force. 15 *International Legal Materials* 219 (1976).

*Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft, 16.2.976, entry into force 12.2.1978. 15 *International Legal Materials* 219 (1976). Amended as Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft or Incineration at Sea, Barcelona, 10.6.1995.

*Protocol concerning Co-operation in Combating Pollution of the Mediterranean Sea by Oil and Other Harmful Substances in Cases of Emergency, Barcelona, 16.2.1976, entry into force 12.2.1978. 15 *International Legal Materials* 219 (1976).

*Protocol for the Protection of the Mediterranean Sea against Pollution from Land-based Sources, Athens, 17.5.1980, entry into force 17.6.1983. 19 *International Legal Materials* 869 (1980). Amended as Protocol for the Protection of the Mediterranean Sea against Pollution from Land-based Sources and Activities, Syracusa, 7.3.1996.

*Protocol concerning Mediterranean Specially Protected Areas, Geneva, 3.4.1982, entry into force 23.3.1986. *Official Journal of the European Communities* 1982 C278/5; Amended as Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean, Barcelona, 10.6.1995, not in force.

*Protocol for the Protection of the Mediterranean Sea Against Pollution Resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and Its Subsoil, Madrid, 14.10.1994, not in force.

*Protocol on the Prevention of Pollution of the Mediterranean Sea by Transboundary Movements of Hazardous Wastes and their Disposal, Izmir, 1.10.1996, not in force.

Agreement concerning the Protection of the Waters of the Mediterranean Shores, Monaco, 10.5.1976, entry into force 1.1.1981. 85 *Revue générale de droit internationale public* 647.

Federal Republic of Germany-Iran: Agreement on Co-operation in the Peaceful Uses of Nuclear Energy, 4.7.1976. *Bundesgesetzblatt* 1978, II, 284.

Convention on the Protection of the Rhine against Chemical Pollution, Bonn, 3.12.1976, entry into force 1.2.1979. 16 *International Legal Materials* 242 (1977).

Convention Concerning the Protection of the Rhine against Pollution by Chlorides, Bonn, 3.12.1976, entry into force 5.7.1985. 16 *International Legal Materials* 265 (1977).

Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, New York, 1976, entry into force 5.10.1978. 16 *International Legal Materials* 88 (1977).

Federal Republic of Germany-France: Agreement on Mutual Assistance in the Event of
Catastrophes and Grave Disasters, 3.2.1977, entry into force 1.12.1980. *Bundesgesetzblatt* 1980, II, 1438.

Convention on Civil Liability for Oil Pollution Damage Resulting from Exploration for and Exploitation of Seabed Mineral Resources, London, 1.5.1977, not in force. 16 *International Legal Materials* 1450 (1977).

Federal Republic of Germany-Netherlands: Memorandum on Exchange of Information and Consultation on Nuclear Installations in Border Areas, 27.9.1977. 22 *Nuclear Law Bulletin* 35 (1978).

Treaty for Amazonian Co-operation, Brasilia, 3.7.1978, entry into force 2.2.1980. 17 *International Legal Materials* 1450 (1978).

Kuwait Regional Convention for Co-operation on the Protection of the Marine Environment from Pollution, Kuwait, 24.4.1978, entry into force 1.7.1979. 1 *UNEP Selected Multilateral Treaties in the Field of the Environment*, pp. 486-491.

*Protocol Concerning Regional Co-operation in Combating Pollution by Oil and other Hazardous Substances in Cases of Emergency, Kuwait, 24.4.1978, entry into force 1.7.1979. 1 *UNEP Selected Multilateral Treaties in the Field of the Environment*, pp. 492-495.

*Protocol Concerning Marine Pollution Resulting from Exploration and Exploitation of the Continental Shelf, 1989, entry into force 1990.

*Protocol for the Protection of the Marine Environment Against Pollution from Land-based Sources, 1990, entry into force 1993.

*Protocol on the Control of Marine Transboundary Movements and Disposal of Hazardous Wastes, 1998, not in force.

Federal Republic of Germany-Switzerland: Agreement on Radiation Protection in Case of Emergency, 31.5.1978, entry into force 10.1.1979. *Bundesgesetzblatt* 1980, II, 563.

Convention on the Conservation of European Wildlife and Natural Habitats, Berne, 19.9.1979, entry into force 1.6.1982, *European Treaty Series* No. 104.

France-Switzerland: Agreement on Exchange of Information in Case of Radiation Emergency, 18.10.1979, entry into force 13.12.1979. *Journal officiel de la République française* of 21.4 and 22.4.1980 by Decree No. 80-279 of 16.4.1980.

Convention on Long-range Transboundary Air Pollution, Geneva, 13.11.1979, entry into force 16.3.1983. 18 *International Legal Materials* 1442 (1979).

*Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution on Long-term Financing of the Co-operative Programme for the Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe, Geneva, 28.9.1984, entry into force 28.1.1988

*Protocol to the 1979 Convention on Long-range Transboundary Air Pollution on the Reduction of Sulphur Emissions or their Transboundary Fluxes by at least 30 per cent, Helsinki, 8.7.1985, entry into force 2.9.1987, 27 *International Legal Materials* 707 (1985).

*Protocol to the 1979 Convention on Long-range Transboundary Air Pollution concerning the Control of Emissions of Nitrogen Oxides or their Transboundary Fluxes, Sofia, 31.10.1988, entry into force 14.2.1991. 27 *International Legal Materials* 698 (1988).

*Protocol to the 1979 Convention on Long-range Transboundary Air Pollution on the Control of Emissions of Volatile Organic Compunds or their Transboundary Fluxes, Geneva, 18.11.1991, entry into force 29.9.1997, 31 *International Legal Materials* 568 (1992).

*Protocol to the 1979 Convention on Long-range Transboundary Air Pollution on the Further Reduction of Sulphur Emissions, Oslo, 14.6.1994, entry into force 5.8.1998, ECE/EB.AIR/40; 33 *International Legal Materials* 1540 (1994).

*Protocol to the 1979 Convention on Long-range Transboundary Air Pollution on Persistent Organic Pollutants, Aarhus, 24.6.1998, not in force.

* Protocol to the 1979 Convention on Long-range Transboundary Air Pollution on Heavy Metals, Aarhus, 24.6.1998, not in force.

*Protocol to the 1979 Convention on Long-range Transboundary Air Pollution to Abate Acidification, Eutrophication and Ground-level Ozone, Göteborg, 30.11.1999, not in force. EB.AIR/1999/1.

Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, New York, 5.12.1979, entry into force 11.7.1984. 18 *International Legal Materials* 1434 (1979).

The United Nations Convention on the Elimination of All Forms of Discrimination against Women, New York, 18.12.1979, entry into force 3.9.1981, 1249 *United Nations Treaty* Series 13; 19 *International Legal Materilas* 33 (1980).

Portugal-Spain: Agreement on Co-operation in Matters Affecting the Safety of Nuclear Installations in the Vicinity of the Frontier, Lisbon, 31.3.1980, entry into force 13.7.1981. Text reprinted in Sands, 1988, pp. 174-178.

Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR), Canberra, 20.5 1980, entry into force 7.4.1982,19 *International Legal Materials* 841 (1980).

Belgium-Federal Republic of Germany: Agreement on Mutual Emergency Assistance, 6.11.1980, entry into force 1.5.1984. *Bundesgesetzblatt* 1982, II, 1006.

Convention Creating the Niger Basin Authority, Faranah, 21.11.1980, entry into force 3.12.1982. 2 *UNEP Selected Multilateral Treaties in the Field of the Environment*, pp. 112-116.

France-Federal Republic of Germany: Supplementary Agreement on Mutual Information in the Event of Radiological Incidents, 28.1.1981, entry into force 6.8.1981. *Bundesgesetzblatt* 1981, II, 885.

Convention for Co-operation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region, Abidjan, 23.3.1981, entry into force 5.8.1984. 2 *UNEP Selected Multilateral Treaties in the Field of the Environment*, pp. 118-123.

*Protocol Concerning Co-operation in Combating Pollution in Cases of Emergency, Abidjan, 23.3.1981, entry into force 5.8.1984. 2 *UNEP Selected Multilateral Treaties in the Field of the Environment*, pp. 123-126.

Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons which may be Deemed to be Excessively Injurious or to have Indiscriminate Effects, New York, 10.4. 1980, entry into force 2.12.1983.

African Charter on Human and Peoples' Rights, Banjul, 27.6.1981, entry into force 21.10.1986. 21 *International Legal Materials* 52 (1982)

Federal Republic of Germany-United States: Agreement on Exchange of Technical Information and Co-operation in Nuclear Safety, 6.7.1981. *Bundesgesetzblatt* 1981, II, 657.

Convention for the Protection of the Marine Environment and Coastal Areas of the South-East Pacific, Lima, 12.11.1981, entry into force 19.5.1986. 2 *UNEP Selected Multilateral Treaties in the Field of the Environment*, pp. 130-134.

*Agreement on Regional Co-operation in Combating Pollution of the South-East Pacific by Hydrocarbons and Other Harmful Substances in Cases of Emergency, Lima, 12.11.1981, entry into force 14.7.1986. 2 *UNEP Selected Multilateral Treaties in the Field of the Environment*, pp. 134-136.

*Supplementary Protocol to the Agreement on Regional Co-operation in combating Pollution of the South-East Pacific by Hydrocarbons and Other Harmful Substances in Cases of Emergency, Quito, 22.7.1983, entry into force 20.5.1987. 2 *UNEP Selected Multilateral Treaties in the Field of the Environment*, pp. 137-139.

*Protocol for the Protection of the South-East Pacific Against Pollution from Land-Based Sources, 1983, entry into force 1986.

*Protocol for the Conservation and Management of Protected Marine and Coastal Areas of the South-East Pacific, Paipa 21.9.1989, entry into force 1994. *UNEP: Status of Regional Agreements Negotiated in the Framework of the Regional Seas Programme*, Rev. 4, Dec. 1994, p. 19.

*Protocol for the Protection of the South-East Pacific against Radioactive Contamination, Paipa 21.9.1989, entry into force 23.1 1995. *UNEP: Status of Regional Agreements Negotiated in the Framework of the Regional Seas Programme*, Rev. 4, Dec. 1994, p. 20.

*Protocol on the Programme for the Regional Study on the El Niño Phenomenon in the South-East Pacific, 1992.

Memorandum of Understanding on Port State Control in Implementing Agreements on Maritime Safety and Protection of the Marine Environment, Paris, 1982.

Convention for the Conservation of the Marine Environment of the Red Sea and Gulf of Aden, Jeddah, 14.2.1982, entry into force 20.8.1985. 2 *UNEP Selected Multilateral Treaties in the Field of the Environment*, pp. 144-150.

*Protocol Concerning Regional Co-operation in Combating Marine Pollution by Oil and Other Harmful Substances in Cases of Emergency, Jeddah, 14.2.1982, entry into force 20.8.1985. 2 *UNEP Selected Multilateral Treaties in the Field of the Environment*, pp. 150-153.

Canada-United States: Arrangement on Mutual Assistance in Fighting Forest Fires, Ottawa, exchange of notes 4.5.1982, entry into force 7.5.1982.

Federal Republic of Germany-Switzerland: Agreement on Mutual Information on Construction and Operation of Nuclear Installations in Border Areas, 10.8.1982. *Bundesgesetzblatt*, 1983, II, 734.

The United Nations Convention on the Law of the Sea, Montego Bay, 10.12.1982, entry into force 16.11.1994. 21 *International Legal Materials* 1261 (1982). U.N. Pub. E.83.V.5 (1983).

International Tropical Timber Agreement, Geneva, 18.11 1983, in force 1.4.1985. UN Doc. TD/TIMBER/11/Rev. 1.

Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region, Cartagena de Indias, 24.3.1983, entry into force 11.10.1986. 2 *UNEP Selected Multilateral Treaties in the Field of the Environment*, pp. 258-264.

*Protocol Concerning Co-operation in Combating Oil Spills in the Wider Caribbean Region, Cartagena de Indias, 24.3 1983, entry into force 11.10.1986. 2 *UNEP Selected Multilateral Treaties in the Field of the Environment*, pp. 265-267.

*Protocol Concerning Specially Protected Areas and Wildlife to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Area, 1990.

*Protocol on the Prevention, Reduction and Control of Land-based Sources and Activities in the Wider Caribbean Region, 1999, not in force.

Luxembourg-France: Agreement on Exchange of Information in Case of Radiological Emergencies, 11.4.1983, entry into force 27.4.1984. *Journal officiel de la République française* of 20.10 1984 by Decree No. 84-930 of 17.10.1984.

Exchange of Notes between the Government of the United Kingdom and the Government of the French Republic Concerning Exchanges of Information in the Event of Emergencies Occurring in One of the Two States which could have Radiological Consequences for the Other State, 18.7.1983, entry into force 18.7.1983. 60 *United Kingdom Treaty Series* (1983), *Command Paper* 9041.

Agreement for Co-operation in Dealing with Pollution of the North Sea by Oil and Other Harmful Substances, Bonn, 13.9 1983, entry into force 1.9.1989. *Command Paper* 9104.

China-Federal Republic of Germany: Agreement on Co-operation in the Field of Peaceful Uses of Nuclear Energy, 9.5.1984. *Bundesgesetzblatt* 1984, II, 554.

Convention against Torture and Other Cruel, Inhuman or Degrading Treatment, New York, 10.12.1984, entry into force 28.6.1987, 39 U.N. GAOR Supp. No. 51 (1984).

Vienna Convention for the Protection of the Ozone Layer, Vienna, 2.5.1985 entry into force 22.9.1988, 26 *International Legal Materials* 1529 (1985).

*Montreal Protocol on Substances that Deplete the Ozone Layer, Montreal, 16.9.1987, entry into force 1.1.1989, 26 *International Legal Materials* 1550 (1987); amended, by Decision II/2 at the Second Meeting of the Parties to the Montreal Protocol, London, 29.6.1990, entry into force 10.8.1992, OJEC No. C11 (1991) 21, UNEP/Oz.L.Pro.2/3 (Annex II); amended and adjusted, Copenhagen, 25.11.1992, entry into force 22.9.1993, 32 *International Legal Materials* 874 (1993); amended, Montreal, 1997; amended, Beijing, 1999.

Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region, Nairobi, 21.6.1985, entry into force 1996. 2 *UNEP Selected Multilateral Treaties in the Field of the Environment*, pp. 324-330.

*Protocol Concerning Co-operation in Combating Marine Pollution in Cases of Emergency in the Eastern African Region, Nairobi, 21.6.1985, not in force. *UNEP Selected Multilateral Treaties in the Field of the Environment*, pp. 337-339.

*Protocol Concerning Protected Areas and Wild Fauna and Flora in the Eastern African Region, Nairobi, 1985, not in force.

China-United States: Agreement for Co-operation Concerning Peaceful Uses of Nuclear Energy, Washington, D.C., 23.7.1985, entry into force 30.12.1985. 24 *International Legal Materials* 1394 (1985).

Argentina-Brazil: Protocol of Co-operation concerning Prompt Notification and Mutual Assistance in the Event of Nuclear Accidents and Radiological Emergencies, 29.7.1986. 38 *Nuclear Law Bulletin* 51 (1986).

Norway-Sweden: Agreement on Exchange of Information and Early Notification Relating to Nuclear Facilities, 21.10.1986. 17 *Environmental Policy and Law* 41 (1987).

Canada-United States: Agreement Concerning the Transboundary Movement of Hazardous Waste, Ottawa, 28.10.1986, entry into force 8.11.1986. *Texts on the Bilateral, Multilateral and Regional Agreements or Arrangements Regarding Transboundary Movements of Hazardous Wastes and Other Wastes*, Basel Convention Series/SBC No: 94/009, Geneva, September 1994, pp. 123-129.

United States-Mexico: Agreement of Cooperation Regarding the Transboundary Shipments of Hazardous Wastes and Hazardous Substances, Washington 11.11.1986, entry into force. *Texts on the Bilateral, Multilateral and Regional Agreements or Arrangements Regarding Transboundary Movements of Hazardous Wastes and Other Wastes*, Basel Convention Series/SBC No: 94/009, Geneva, September 1994, pp. 157-172.

Convention for the Protection of the Natural Resources and Environment of the South Pacific Region, Noumea, 24.11.1986, entry into force 18.8.1990. *Selected Multilateral Treaties in the Field of the Environment*, pp. 372-380.

*Protocol for the Prevention of Pollution of the South Pacific Region by Dumping, Noumea, 24.11.1986, entry into force 18.8.1990. *Selected Multilateral Treaties in the Field of the Environment*, pp. 381-385.

*Protocol Concerning Co-operation in Combating Pollution Emergencies in the South Pacific Region, Noumea, 24.11.1986, entry into force 18.8.1990. *Selected Multilateral Treaties in the Field of the Environment*, pp. 386-388.

Convention on Early Notification of a Nuclear Accident, Vienna, 26.9.1986, entry into force 27.10.1986. 25 *International Legal Materials* 1370 (1986).

Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, Vienna, 26.9.1986, entry into force 26.2.1987. 25 *International Legal Materials* 1377 (1986).

Finland-Soviet Union: Agreement on Early Notification of Nuclear Accidents and Exchange of Information concerning Nuclear Installations, Helsinki, 7.1.1987, entry into force 18.7.1987. *Finlands författningssamlings fördragsserie* 39-42/1987.

Finland-Denmark: Agreement on Exchange of Information and Notification concerning Danish and Finnish Nuclear Facilities (inofficial translation), Helsinki, 25.2.1987, entry into force 14.5.1987. *Finlands författningssamlings fördragsserie* 27/1987.

Finland-Sweden: Agreement on Exchange of Information and Notification concerning Finnish and Swedish Nuclear Facilities (inofficial translation), Helsinki, 25.2.1987, entry into force 23.5.1987. *Finlands författningssamlings fördragsserie* 28/1987.

Finland-Norway: Agreement on Exchange of Information and Notification concerning Finnish and Norwegian Nuclear Facilities (inofficial translation), Helsinki, 25.2.1987, entry into force 20.8.1987. *Finlands författningssamlings fördragsserie* 46/1987.

Convention on the Regulation of Antarctic Mineral Resource Activities, Wellington, 2.6.1988, not in force. 27 *International Legal Materials* 859 (1988).

Agreement between Denmark, Finland, Norway and Sweden on Frontier Co-operation in Cases of Accidents for the Prevention or Limitation of Damage to Human Life, Property or the Environment, Stockholm, 20.1.1989, entry into force 1.3.1992. *Finlands författningssamlings fördragsserie* 20-21/1992.

The United Nations Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Basle, 22.3.1989, entry into force 5.5.1992. 28 *International Legal Materials* 649 (1989). Amended 22.9.1995 by 3rd COP Decision III/1, not in force.

*Protocol on Liability and Compensation for Damage Resulting from the Transboundary Movement of Hazardous Wastes and their Disposal, Basel 10.12.1999, not in force.

ILO Convention No. 169 Concerning Indigenous and Tribal Peoples in Independent Countries, Geneva, 27.6 1989, not in force, 28 *International Legal Materials* 1382 (1989).

Convention on Civil Liability for Damage Caused during Carriage of Dangerous Goods by Road, Rail and Inland Navigation Vessels, Geneva, 10.10.1989, not in force, ECE/TRANS/79; IV-81 *International Transport Treaties*

The United Nations Convention on the Rights of the Child, New York, 20.11.1989, entry into force 2.9.1990, 30 *International Legal Materials* 1449 (1989).

Fourth ACP-EEC Convention of Lomé, Lomé, 15.12.1989, entry into force 1.9.1991, 29 *International Legal Materials* 783 (1990).

African Regional Cooperative Agreement for Research, Development and Training Related to Nuclear Science and Technology, 1990, in force, http://www.afra-iaea.org/

International Convention on Oil Pollution Preparedness, Response and Co-operation, London, 30.11.1990, entry into force 13.5.1995. 30 *International Legal Materials* 733 (1991).

Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes Within Africa, Bamako, 29.1.1991, entry into force 22.4.1998, 30 *International Legal Materials* 775 (1991).

Convention on Environmental Impact Assessment in a Transboundary Context, Espoo, 25.2.1991, entry into force 10.9.1997. 30 *International Legal Materials* 733 (1991).

OAU Treaty Establishing the African Economic Community, Abuja 3.6.1991. 3(4) RADIC 1991, pp. 792-839.

Convention on the Protection of the Alps, Salzburg, 7.11.1991, entry into force 6.3.1995. 31 *International Legal Materials* 767 (1992).

Convention on the Transboundary Effects of Industrial Accidents, Helsinki, 17.3.1992, entry into force 19.4.2000. 31 *International Legal Materials* 1330 (1992).

Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Helsinki, 17.3.1992, entry into force 6.10.1996. 31 *International Legal Materials* 1312 (1992).

*Protocol on Water and Health, London, 17.6.1999, not in force. http://www.unece.org/env/water

Convention on the Protection of the Marine Environment of the Baltic Sea Area, Helsinki, 9.4.1992, entry into force 17.1.2000. Diplomatic Conference on the Protection of the Marine Environment of the Baltic Sea Area. Conf. Doc. No. 4, Agenda Item 4.

Convention on the Protection of the Black Sea Against Pollution, Bucharest, 21.4 1992, entry into force 15.1.1994. 32 *International Legal Materials* 1101 (1993).

*Protocol on the Protection of the Black Sea Marine Environment Against Pollution from Land-based Sources, Bucharest, 21.4.1992, entry into force 15.1.1994. 32 *International Legal Materials* 1101 (1993).

*Protocol on Cooperation in Combating Pollution of the Black Sea Marine Environment by Oil and Other Harmful Substances in Emergency Situations, Bucharest, 21.4.1992, entry into force 15.1.1994. 32 *International Legal Materials* 1101 (1993).

*Protocol on the Protection of the Black Sea Marine Environment Against Pollution by Dumping, Bucharest, 21.4.1992, entry into force 1994. 32 *International Legal Materials* 1101 (1993).

Agreement on Environmental Cooperation between the Government of the Republic of Finland and the Government of the Russian Federation, Moscow, 29.4.1992, in force.

United Nations Framework Convention on Climate Change, Rio de Janeiro, 4.6.1992, entry into force 21.3.1994, 31 *International Legal Materials* 849 (1992).

*Kyoto Protocol to the United Nations Framework Convention on Climate Change, Kyoto, 11.12.1997, not in force.

United Nations Convention on Biological Diversity, Rio de Janeiro, 5.6.1992, entry into force 29.12.1993, 31 *International Legal Materials* 818 (1992).

*Protocol on Biosafety to the Convention on Biological Diversity, Cartagena, 29.1.2000, not in force. www.biodiv.org/biosafe/protocol/

Convention for the Protection of the Marine Environment of the North East Atlantic, Paris, 22.9.1992, entry into force 25.3.1998. 32 *International Legal Materials* 1069 (1993).

Treaty on European Union, Maastricht, 11.12.1992, entry into force 1.11.1993. 31 *International Legal Materials* 247 (1992).

Central American Regional Agreement on the Transboundary Movement of Hazardous Wastes, Panama City, 11.12.1992, *Texts on the Bilateral, Multilateral and Regional Agreements or Arrangements Regarding Transboundary Movements of Hazardous Wastes and Other Wastes*, Basel Convention Series/SBC No: 94/009, Geneva, September 1994.

Agreement between the Government of the Republic of Finland and the Government of the Federal Republic of Germany on Early Notification of Nuclear Accidents and on Exchange of Information and Experience in the Field of Nuclear Safety and Radiation Protection, Helsinki, 21.12.1992, entry into force 28.5.1993. *Finlands författningssamlings fördragsserie* 35/1993.

Austrian-German Agreement on the Transboundary Movement of Hazardous Wastes, Vienna, 12.1.1993 and Bonn 16.2.1993, *Texts on the Bilateral, Multilateral and Regional Agreements or Arrangements Regarding Transboundary Movements of Hazardous Wastes and Other Wastes*, Basel Convention Series/SBC No: 94/009, Geneva, September 1994.

Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction, Paris, 14.2.1993, entry into force 29.4.1997. 32 *International Legal Materials* 800 (1993).

Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment, Lugano, 21.6.1993, not in force. 32 *International Legal Materials* 1228 (1993).

ILO Convention 174. Convention concerning the Prevention of Major Industrial Accidents, Geneva, 22.6.1993, in force. *Labour Law Documents* 1993(3), pp. 1-6.

North American Agreement on Environmental Cooperation, Washington, 14.9.1993, 32 *International Legal Materials* 1480 (1993): Side Agreement to the North American Free Trade Agreement (NAFTA), Washington, 14.9.1993, 32 *International Legal Materials* 289 (1993).

Belgium-France-Netherlands: Agreements on the Protection of the Rivers Meuse and Scheldt, Charleville Mezieres, 26.4 1994, not in force, 34 *International Legal Materials* 851 (1995).

Nuclear Safety Convention, Vienna, 20.9.1994, entry into force 24.10.1996, 33 *International Legal Materials* 1514 (1994).

Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, Paris, 14.10.1994, entry into force 26.12.1996. www.unccd.int.

Cambodia-Laos-Thailand-Vietnam: Agreement on the Co-operation for the Sustainable Development of the Mekong River Basin, Chiang Rai, 5.4.1995, entry into force 5.4.1995, 34 *International Legal Materials* 864 (1995).

Convention to Ban the Importation into Forum Island Countries of Hazardous and Radioactive Wastes and to Control the Transboundary Movement and Management of Hazardous Wastes within the South Pacific Region, Waigani, 16.9.1995, entry into force 21.10.2001. http://www.forumsec.org.fj

Bosnia and Herzegovina-Croatia-Yugoslavia: General Framework Agreement for Peace in Bosnia and Herzegovina with Annexes, Paris, 14.12.1995, entry into force 14.12.1995, 35 *International Legal Materials* 75 (1996).

Agreement between the Government of the Republic of Finland and the Government of the Ukraine on Early Notification of Nuclear Accidents and on Exchange of

Information and Experience in the Field of Nuclear Safety and Radiation Protection, Helsinki, 8.2.1996, entry into force 7.9 1997.

International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, London, 5.3.1996, not in force, http://www.ecolex.org/LI/LI/details/EN/782980.htm

*Protocol on Preparedness, Response and Co-operation to Pollution Incidents by Hazardous and Noxious Substances, London, 15.3.2000, not in force.

United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses, New York, 21.5.1997, not in force, 36 *International Legal Materials* 700 (1997).

IAEA Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, Vienna, 29.9.1997, entry into force 18.6.2001, IAEA INFCIRC/546 24.12.1997, http://www.iaea.org/ns/rasanet/conventions/jointconven.htm..

Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction, Ottawa, 4.12.1997, in force 1.3. 1999, 36 *International Legal Materials* 1507 (1997).

Convention on the Protection of the Rhine, Berne, 12.4.1999, not in force, http://www.iksr.org

Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, Aarhus, 25.6.1998, entry into force 30.10.2001. ECE/CEP/43; 38 *International Legal Materials* 517 (1999); www.unece.org

Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, Rotterdam, 11.10.1998, not in force. UNEP/FAO/PIC/CONF/5.

Prototype Carbon Fund: Participant's Agreement and The Instrument, The International Bank for Reconstruction and Development, 22.7.1999.

Fifth ACP-EC Convention, Cotonou, 21.6.2000, not in force, COM(2000)324 final.

International Convention on Civil Liability for Bunker Oil Pollution Damage, London, 23.3.2001, not in force.

Convention on Persistent Organic Pollutants, Stockholm, 22.5.2001, not in force, www.chem.unep.ch/pops/

Agreement on the Exchange of Radiation Monitoring Data, Hamburg, 7.6.2001, not in force. http://www.cbss.org